

FIG. 1

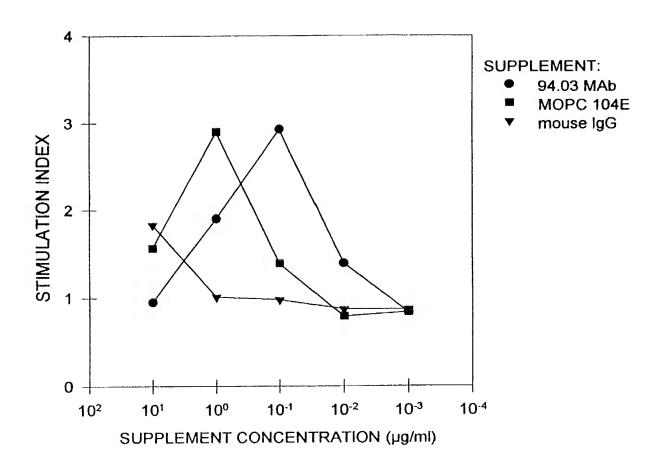
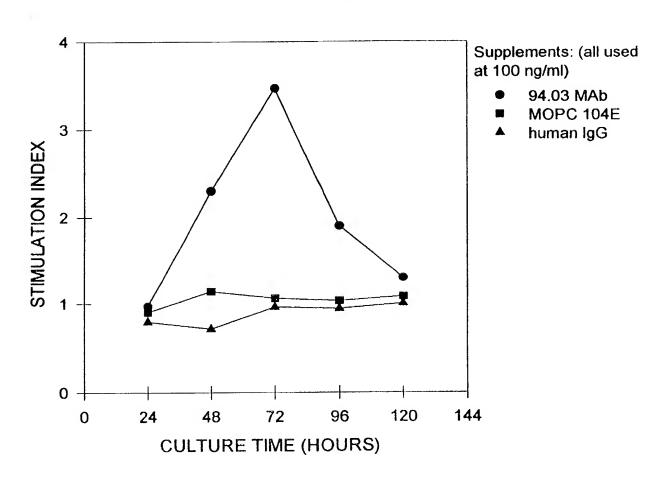




FIG. 2



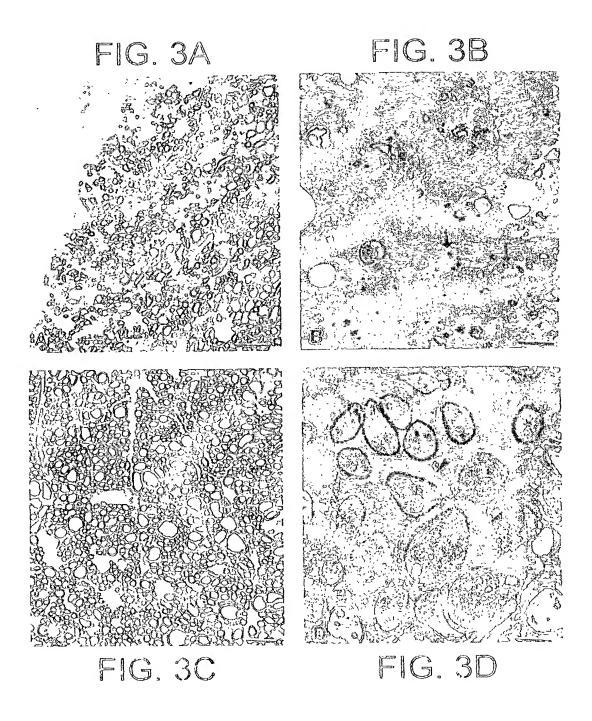
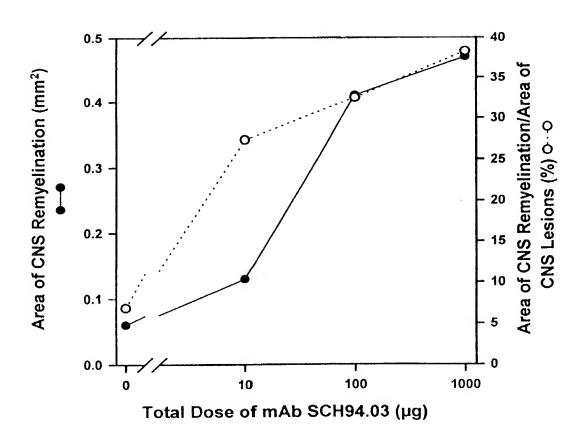
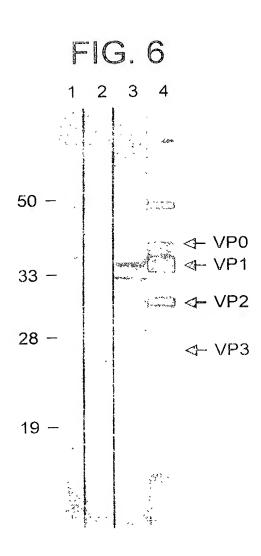
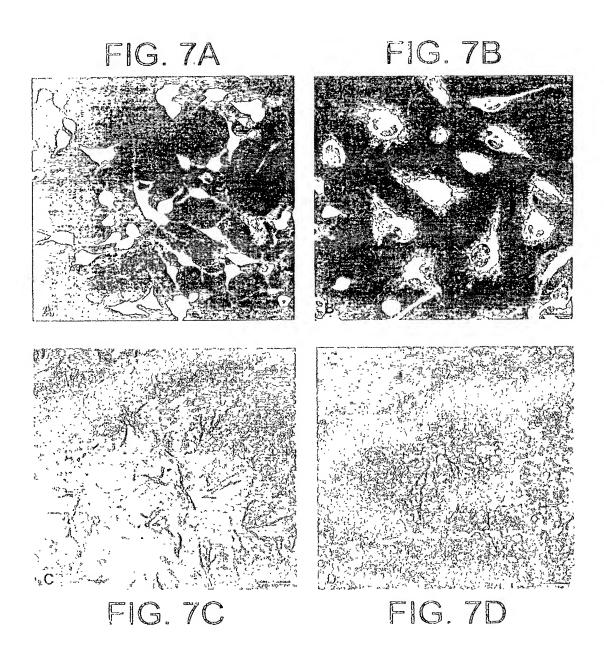




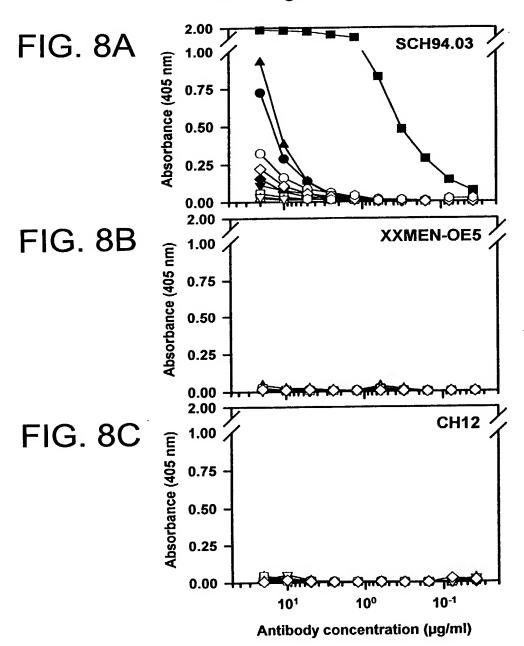
FIG. 5







Protein antigen ELISA with SCH94.03



Antigen:

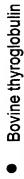
KLH
 Spectrin
 hemoglobin
 vimentin
 thyroglobulin
 actin
 lysozyme
 transferrin
 myosin
 tubulin



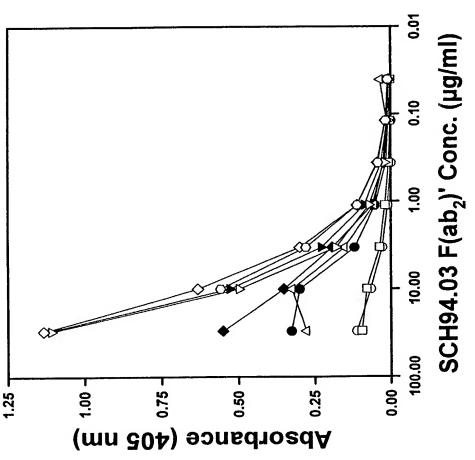
FIG. 9

ELISA with SCH94.03 F(ab₂)' fragments





- Human spectrin Bovine tubulin
- Bovine myelin basic protein
 - Bovine myosin 0
 - □⊲
- Dog myoglobin Trinitrophenyl (TNP)-BSA Rabbit actin Mouse hemoglobin $\triangleright \Diamond \circ$



10-4



Chemical hapten ELISA with SCH94.03

FIG. 10A

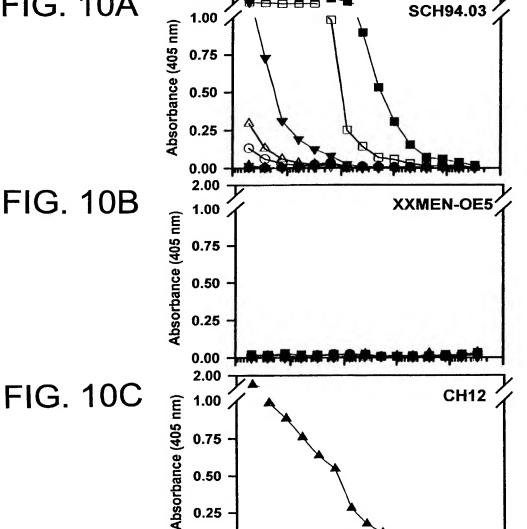


FIG. 10C

Hapten:

none

0.25

0.00

10¹

- FL
- **TMA PhOx**
- О Ars

Antibody concentration (µg/ml)

- NP
- Δ **TNP**
- PC

16,114 Immunoglobulin Light Chain Variable Region Sequence of SCH94.03



Immunoglobulin Heavy Chain Variable Region Sequence of SCH94.03

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<u>H</u>	FIG. 11B	
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	germline V23	
	SCH94.03	10 TELVKPGAS CT CAGG GCT TCA GTG AAG CTG TCC TGC AAG GCT TCT GCC TAC ACC TTC ACC TAC ACC TAC ACC CTAC ACC AC
	CHIZ Jermline V23	CDR2
	SCH94.03 CH12 germline V23	W W K Q R P G Q G L E W I G N I N P S N G G T N Y N E TG GIG AND ATT ANT CT AGC ANT GGA CT GAG CT GA
		CDR2
	SCH94.03 CH12 Germline V23	KFKSKAR AGCARG GCC ACA CTG ACA AAA TCC TCC AGC TAC TAC TAG CAG CTG AGC TGC AGC TAC ATG CAG CTG ACA TCT GAG
		CDR3
		N region D region N region J region
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		J region Cu
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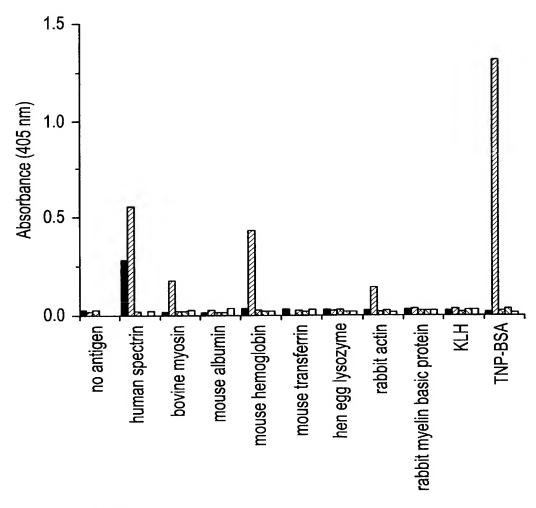
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	ATC		8 a 8		> GTC		Y TAT		
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	T CTC		1 CH		Y TAC		S AGC		GAA :
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	mline Vx41	OPC41	mine VK41 vK-1 OPC41		rmline Vr41 vIK-1	OPC41	rmline VK41 VK-1 OPC41		rmline Vr41 rmline Jr2 NK-1 OPC41



FIG. 17

Leader Peptide





■ O1
☑ O4
☑ A2B5
☑ TEPC183
□ XXMEN-OE5



FIG. 19A

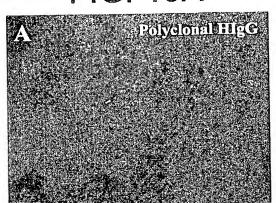


FIG. 19B

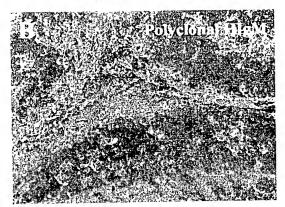


FIG. 19C

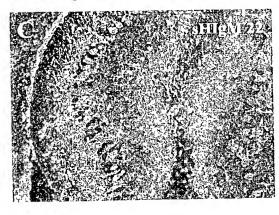


FIG. 19D

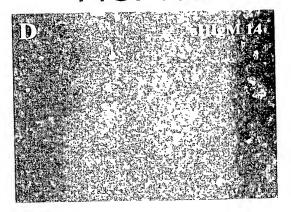


FIG. 19E



FIG. 19F



FIG. 20A

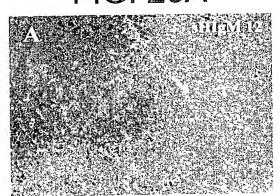


FIG. 20B

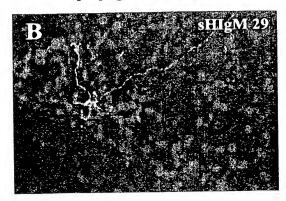


FIG. 20C

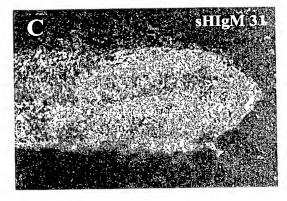


FIG. 20D

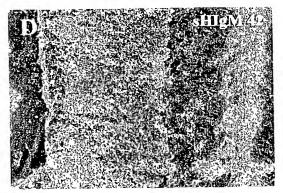


FIG. 20E



FIG. 20F

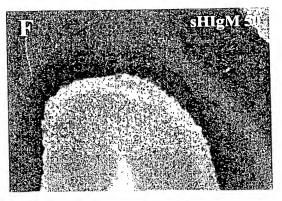




FIG. 21A

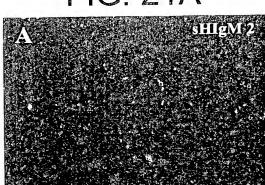


FIG. 21B

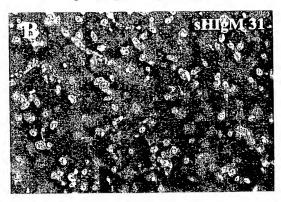


FIG. 21C

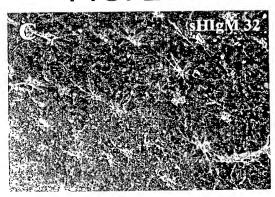


FIG. 21D

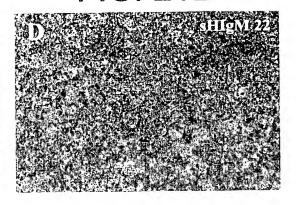


FIG. 21E

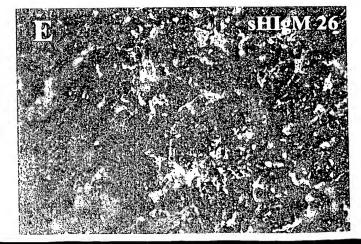




FIG. 22A

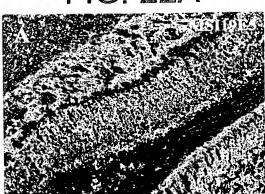


FIG. 22B

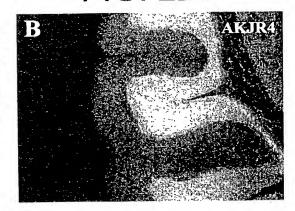


FIG. 22C



FIG. 22D

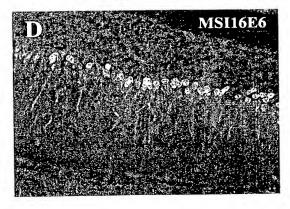


FIG. 22E

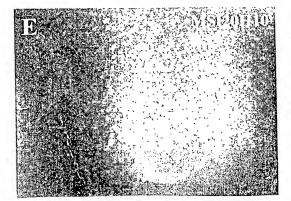


FIG. 22F

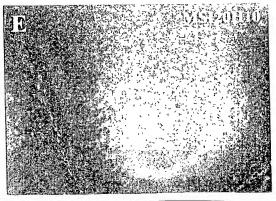




FIG. 23A

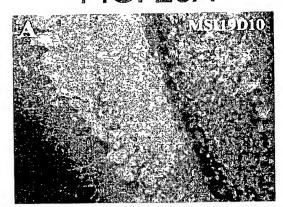


FIG. 23B

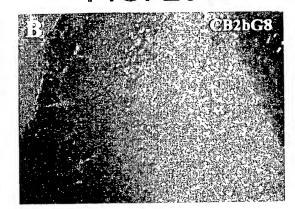


FIG. 23C

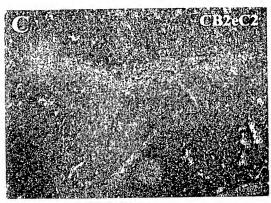


FIG. 23D

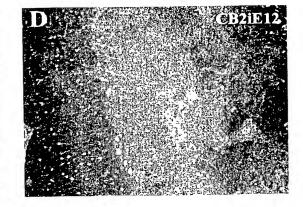


FIG. 23E

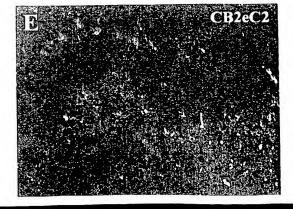
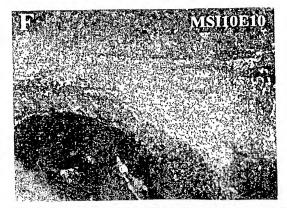


FIG. 23F



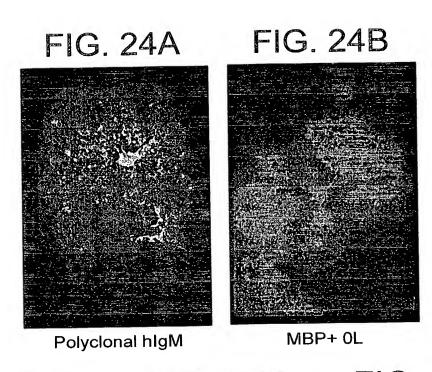


FIG. 24C

FIG. 24D

FIG. 24E

FIG. 25A

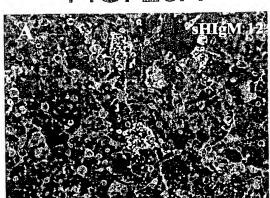


FIG. 25B

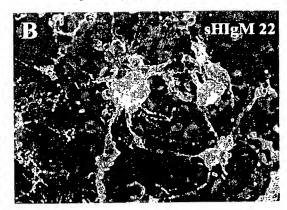


FIG. 25C

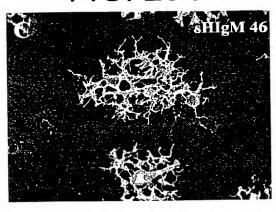


FIG. 25D

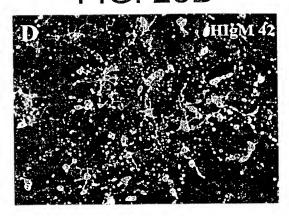


FIG. 25E

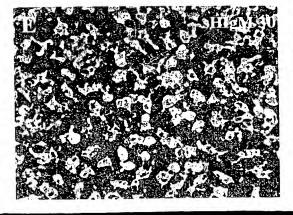
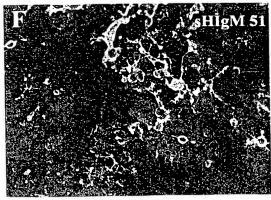


FIG. 25F







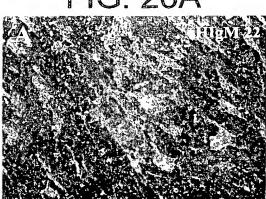


FIG. 26B

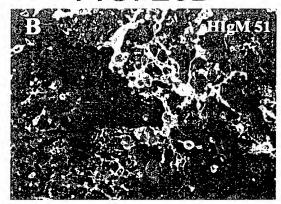


FIG. 26C

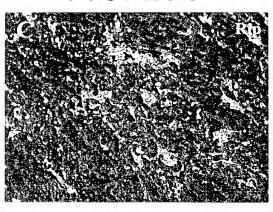


FIG. 26D

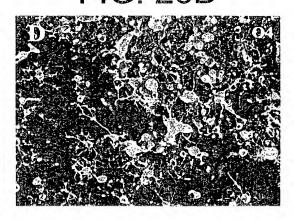


FIG. 26E

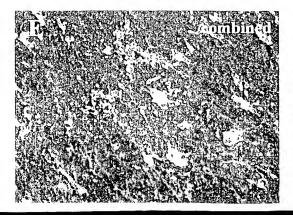


FIG. 26F

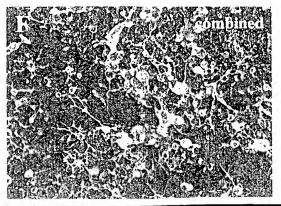


FIG. 27A

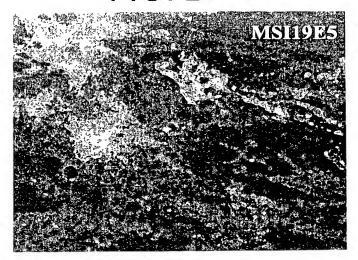


FIG. 27B

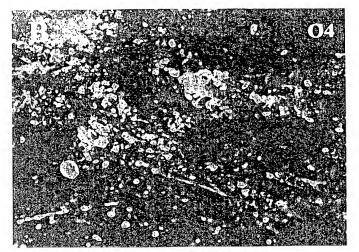


FIG. 27C

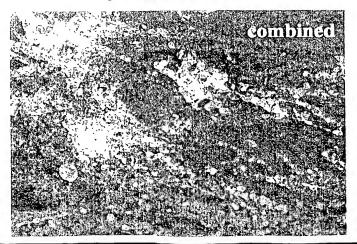
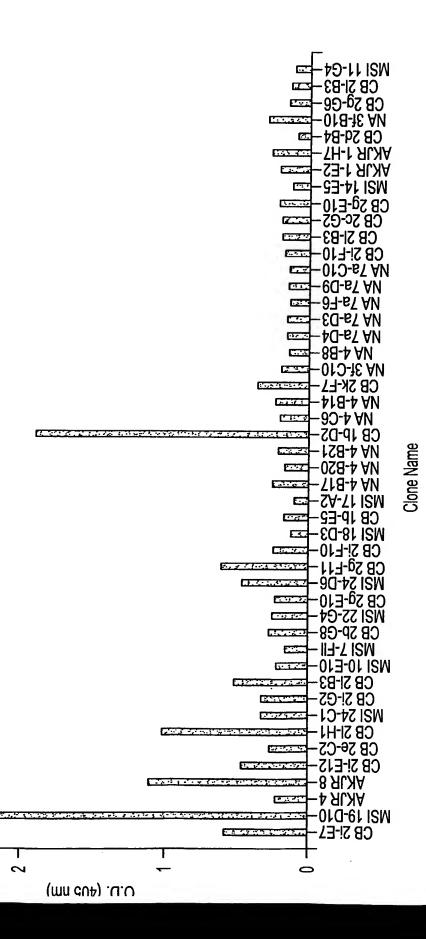




FIG. 29 ebvHlgMs Characterized by Binding to SCH via ELISA

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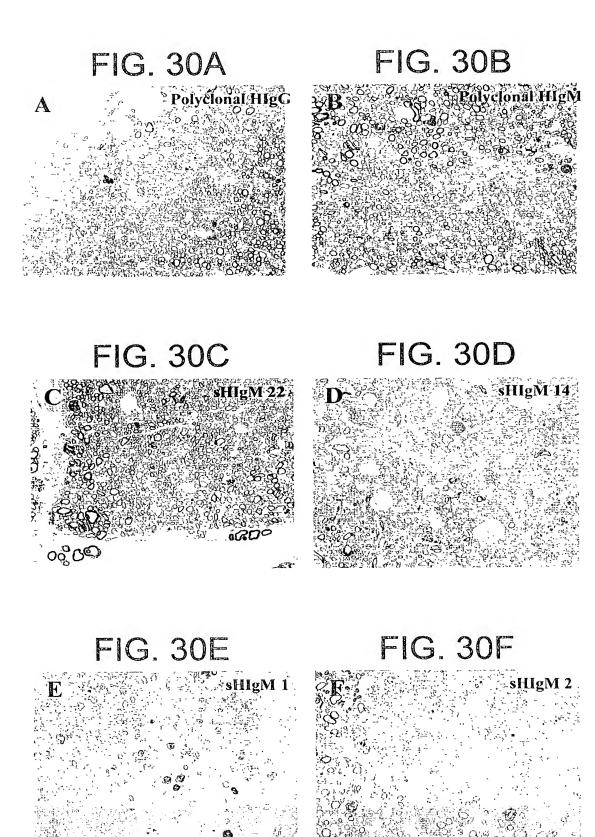


FIG. 31A

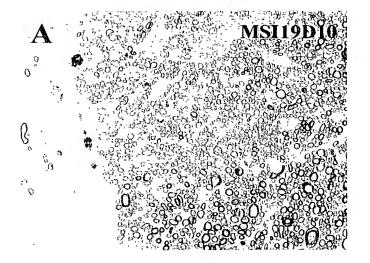


FIG. 31B

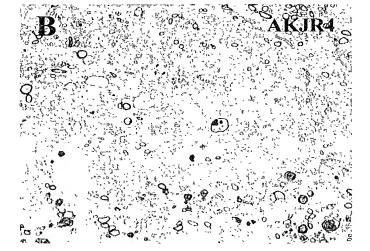


FIG. 32

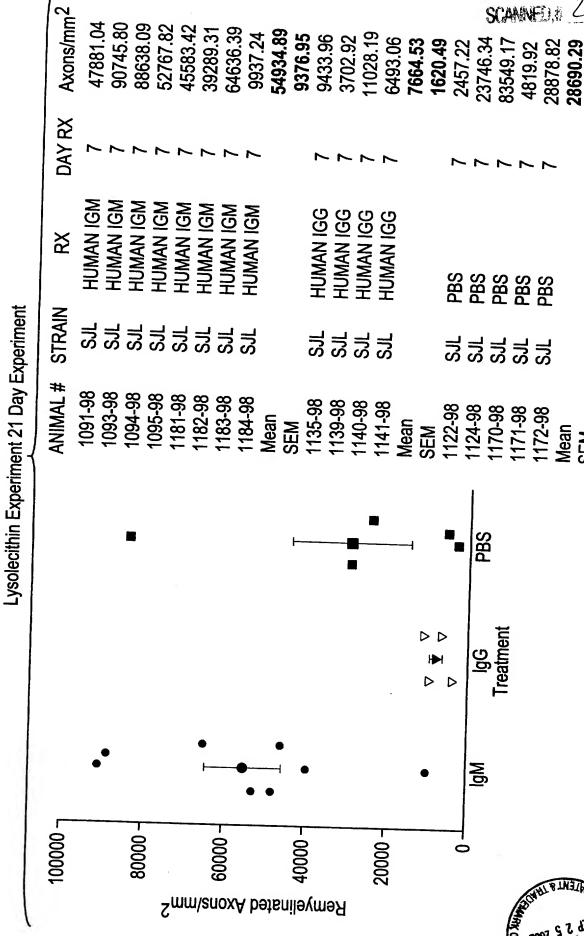
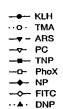




FIG. 33

Hapten Elisa



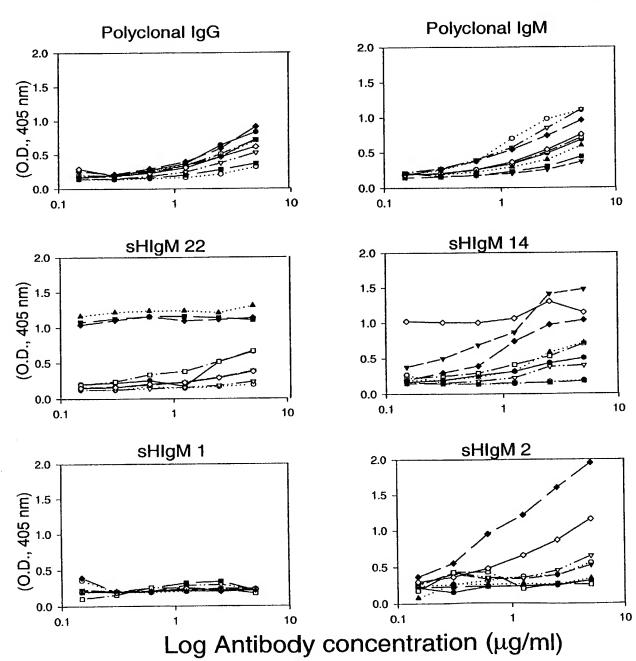
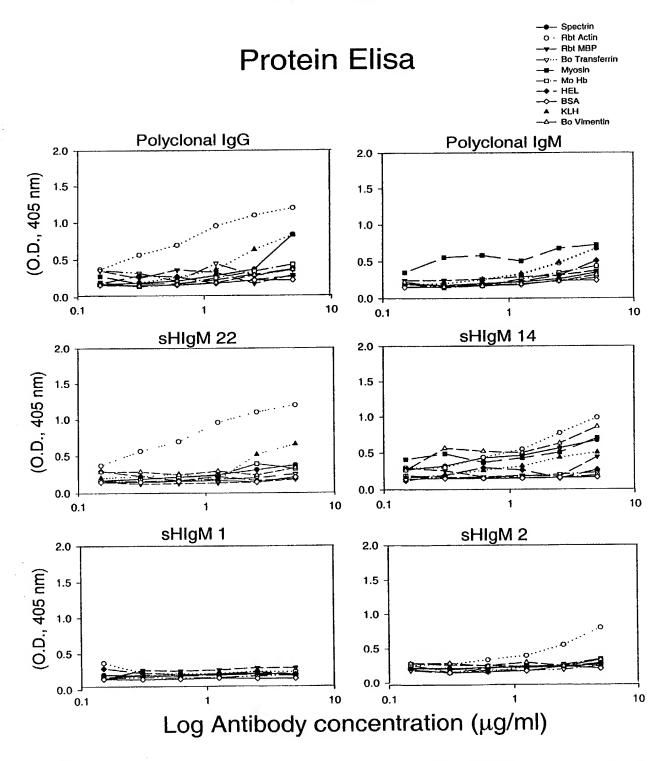




FIG. 34





/FR1											12	13	11	15
1	2	3	4	5	6 F	7	8 <i>G</i>	9 G	G TO	v	12 V	0		
CAG	v GTG	O CAG	CTG	GTG	GAG	TCT	GGG	GGA	GGC	GTG	GTC	CAG		
		I-IgM			•			G						
		1-IgM												
							_							
16	17	18	19	20	21	22	23	24	25	26				
R	<u>_S</u>	<u>L</u>	$\frac{R}{100}$	L	<u>S</u>	C	A GCA	CCC	mem	CCA	F TTC	T	F	<i>S</i> ኔርጥ
AGG	TCC	CTG	AGA	CTC	TCC	TGT	GCA	GCC	101	GGA	110	ACC	110	1101
/CDF					/FR2	?								45
31	32						38			41	42	43	44	45 r
S	S	G	M	H	W mcc	V	R CGC	Q	A CCT	P CCA	G GGC	AAG	GGG	CTG
AGC	C	GGC	ATG	CAC	1.66	GIC	CGC	A	GCI	CCA	GGC	mo	000	0.10
	C													
			/	CDR2	?- - -									
46	47	48	49	50	51	52	52A	53	54	55	56	57	58	59
F	TAJ .	W	A	V(I)) T	S	\boldsymbol{Y}	D	G	S	<u> </u>	K	X	<u> </u>
GAG	TGG	GTG	GCA	GTT		TCA	TAT	GAT.	GGA	AGT	GG	AAA	TAC	IAI
				A C	T T						GG			
						FR3								
60	61	62	63	64	65	66	67	68	69	70	71	72	73	74
Δ	61 D	62 S	63 V	64 K	65 G	66 R	67 F	68 T		.S	$R_{}$	$D_{}$	<u>N</u>	_\$
Δ	61 D	62 S	63 V	64 K	65 G	66 R	67 <u>F</u> TTC	68 T		.S	$R_{}$	$D_{}$	AAT	_\$
Δ	61 D	62 S	63 V	64 K	65 G	66 R	67 F	68 T		.S	$R_{}$	$D_{}$	AAT C	_\$
A GCA	61 D GAC	62 S TCC	63 <i>V</i> GTG	64 K AAG	65 G GGC	66 R CGA	67 F TTC	68 T ACC	ATC	S TCC	R AGA	GAC	AAT C C	TCC
A GCA	61 D GAC	62 S TCC	63 <i>V</i> GTG	64 K AAG	65 G GGC	66 R CGA	67 F TTC	68 T ACC	ATC	S TCC	R AGA	GAC	AAT C C	TCC
A GCA 	61 D GAC	62 S TCC 77	63 <u>V</u> GTG 78	64 K AAG 79	65 G GGC 80	66 R CGA 81	67 F TTC 82 M	68 T ACC 82A N	ATC 82B S	S TCC 82C L	AGA 83	GAC 84 A	AAT C C C 85	TCC 86
A GCA 	61 D GAC	62 S TCC 77	63 <u>V</u> GTG 78	64 K AAG 79	65 G GGC 80	66 R CGA 81	67 F TTC 82 M	68 T ACC 82A N	ATC 82B S	S TCC 82C L	R AGA 83 T AGA	GAC 84 A	AAT C C 85 D(E	TCC 86 D GAC
A GCA 	61 D GAC	62 S TCC 77 T ACG T	63 V GTG 78 L CTG	64 K AAG 79 Y TAT	65 G GGC 80	66 R CGA 81	67 F TTC	68 T ACC 82A N	ATC 82B S	S TCC 82C L	R AGA 83 T AGA CG	GAC 84 A	AAT C C C 85	TCC 86 D GAC
A GCA 	61 D GAC	62 S TCC 77 T ACG	63 V GTG 78 L CTG	64 K AAG 79 Y TAT	65 G GGC 80 L CTG	66 R CGA 81 O CAA	67 F TTC 82 M ATG	68 T ACC 82A N AAC	ATC 82B S AGC	S TCC 82C L CTG	R AGA 83 T AGA	GAC 84 A	AAT C C 85 D(E	TCC 86 D GAC
75 <u>K</u> AAG	61 D GAC 76 N AAC	62 S TCC 77 T ACG T T	63 V GTG 78 L CTG	64 K AAG 79 Y TAT	65 G GGC 80 L CTG	66 R CGA 81 O CAA	67 F TTC 82 M ATG	68 T ACC 82A N AAC	82B S AGC	S TCC 82C L CTG	R AGA 83 T AGA CG C	GAC 84 A GCT	AAT C C 85 D(E GAG C	TCC 86 D GAC
75 <u>K</u> AAG	61 D GAC 76 N AAC	62 S TCC 77 T ACG T T	63 V GTG 78 L CTG C	64 K AAG 79 Y TAT 91	65 G GGC 80 L CTG	66 R CGA 81 O CAA	67 F TTC 82 M ATG	ACC 82A N AAC	82B S AGC 3 96	S TCC 82C L CTG	R AGA 83 T AGA CG C	6AC 84 A GCT 999	AAT C C S D(E GAG C	TCC 86 D GAC 100A T
75 <u>K</u> AAG	61 D GAC 76 N AAC	62 S TCC 77 T ACG T T	63 V GTG 78 L CTG C	64 K AAG 79 Y TAT 91	65 GGC 80 L CTG 92 C	66 R CGA 81 O CAA 93 A GCG	67 F TTC 82 M ATG	82A N AAC	82B S AGC 3 96 V GTG	S TCC 82C L CTG 97 T ACT	AGA 83 T AGA CG C 98 G GCT	GAC 84 A GCT 99 S ATT	AAT C C C S S D(E GAG C 1000 P CCC	TCC 86 D D GAC 100A TAC
75 <u>K</u> AAG	61 D GAC 76 N AAC	62 S TCC 77 T ACG T T	63 V GTG 78 L CTG C	64 K AAG 79 Y TAT 91	65 GGC 80 L CTG 92 C	66 R CGA 81 O CAA 93 A GCG	67 F TTC 82 M ATG	82A N AAC	82B S AGC 3 96 V GTG	S TCC 82C L CTG 97 T ACT	AGA 83 T AGA CG C 98 G GCT G	GAC 84 A GCT 99 S ATT G	AAT C C C S S D(E GAG C 1000 P CCC G	TCC 86 D D GAC 100A TAC ACG
A GCA 75 K AAG 87 T ACG	61 D GAC 76 N AAC 88 A GCT	62 S TCC 77 T ACG T T 89 V GTG	63 V GTG 78 L CTG C 90 Y TAT	79 Y TAT 91 Y	65 G GGC 80 L CTG 92 C TGT	66 R CGA 81 O CAA 93 A GCG	67 F TTC 82 M ATG	82A N AAC	82B S AGC 3 96 V	S TCC 82C L CTG 97 T ACT	AGA 83 T AGA CG C 98 G GCT G	GAC 84 A GCT 99 S ATT G	AAT C C C S S D(E GAG C 1000 P CCC G	TCC 86 D D GAC 100A TAC
A GCA 75 K AAG 87 T ACG	61 D GAC 76 N AAC 88 A GCT	62 S TCC 77 T ACG T T 89 V GTG	63 V GTG 78 L CTG C 90 Y TAT	64 K AAG 79 Y TAT 91 Y TAC T	65 G GGC 80 L CTG 92 C TGT	66 R CGA 81 O CAA 93 A GCG	67 F TTC 82 M ATG	82A N AAC /CDR 95 G GAG GA	82B S AGC 3 96 V GTG	S TCC 82C L CTG 97 T ACT	AGA 83 T AGA CG C 98 G GCT G G G	GAC 84 A GCT 99 S ATT G G G	AAT C C C 85 D(E GAG C 1000 P CCC G	TCC 86 D D GAC 100A TAC ACG ACG
A GCA 75 K AAG 87 T ACG	61 D GAC 76 N AAC 88 A GCT	62 S TCC 77 T ACG T T 89 V GTG	63 V GTG 78 L CTG C 90 Y TAT /FR4 103	79 Y TAT 91 Y TAC T	65 G GGC 80 L CTG 92 C TGT	66 R CGA 81 O CAA 93 A GCG	67 F TTC 82 M ATG 94 K AAA	ACC 82A N AAC /CDR 95 G GAG GA GA 108	82B S AGC 3 96 V GTG	82C L CTG 97 T ACT	AGA 83 T AGA CG C 98 G GCT G G 111	99 SATT G G	AAT C C C 85 D(E GAG C 1000 P CCC G G G 1113	TCC 86 D D GAC 100A TAC ACG ACG
A GCA 75 K AAG 87 T ACG	61 D GAC 76 N AAC 88 A GCT	62 S TCC 77 T ACG T T 89 V GTG	63 V GTG 78 L CTG C 90 Y TAT /FR4 103 W	64 K AAG 79 Y TAT 91 Y TAC T	65 G GGC 80 L CTG 92 C TGT	66 R CGA 81 O CAA 93 A GCG	67 F TTC 82 M ATG 94 K AAA	ACC 82A N AAC /CDR 95 G GAG GA GA 108 L	82B S AGC 3 96 V GTG 109	S TCC 82C L CTG 97 T ACT	AGA 83 T AGA CG C 98 G GCT G G 1111 V	99 SATT G G 112	AAT C C C 85 D(E GAG C 100 P CCC G G G 1113	TCC 86 D D GAC 100A T TAC ACG ACG
75 K AAG 87 T ACG 100 L	61 D GAC 76 N AAC 88 A GCT	62 S TCC 77 T ACG T T 89 V GTG	63 V GTG 78 L CTG C 90 Y TAT /FR4 103 W	64 K AAG 79 Y TAT 91 Y TAC T	65 G GGC 80 L CTG 92 C TGT	66 R CGA 81 O CAA 93 A GCG	67 F TTC 82 M ATG 94 K AAA	ACC 82A N AAC /CDR 95 G GAG GA GA 108 L	82B S AGC 3 96 V GTG 109	S TCC 82C L CTG 97 T ACT	AGA 83 T AGA CG C 98 G GCT G G 1111 V	99 SATT G G 112	AAT C C C 85 D(E GAG C 100 P CCC G G G 1113	TCC 86 D GAC 100A T TAC ACG ACG
A GCA 75 K AAG 87 T ACG	61 D GAC 76 N AAC 88 A GCT	62 S TCC 77 T ACG T T 89 V GTG	63 V GTG 78 L CTG C 90 Y TAT /FR4 103 W	64 K AAG 79 Y TAT 91 Y TAC T	65 G GGC 80 L CTG 92 C TGT	66 R CGA 81 O CAA 93 A GCG	67 F TTC 82 M ATG 94 K AAA	ACC 82A N AAC /CDR 95 G GAG GA GA 108 L	82B S AGC 3 96 V GTG 109	S TCC 82C L CTG 97 T ACT	AGA 83 T AGA CG C 98 G GCT G G 1111 V	99 SATT G G 112	AAT C C C S S D(E GAG C 1000 P CCC G G 1113 S TCA	TCC 86 D GAC 100A T TAC ACG ACG



/FR1					_ -							2.4		1.0
1	2	3	4	5 T	6	7	8	9	11	12	13	14 2	D T2	16 G
<u>o_</u>	_ <u>S</u>	V	_ <u>L</u>	T ACG	<u></u>	CCC	CCC	TCA	CTG	ጥርጥ	GCG	GCC	CCA	GGA
CAG	TCT	GTG	7"IG	ACG	CAG	CCG	CCC m	ICA	010	101	Т	000		
Clone	e i sm	-igivi.	22 VX	λ.	G									
Clone	e II SF	i-igm.	.22 V	٨.	G	,	CDD1				. 			
47	10	10	20	21 	22	23	2A	25	26	27	27A	27B	28	29
1,	10	17	r	7 T	S	C	S	G	S	S	S	N	I	G
CAG	AAG	GTC	ACC	ATC	TCC	TGC	TCT	GGA	AGC	AGC	TCC	AAC	TTA	GGG
Crio	1110	010												C
														С
				/	FR2-								42	
30	31	32	33	34	35	36	37	38	39	40	4 J	42	43	44
<u>N</u>	_N	F	<u></u>	S	W	<u>Y</u>	0	0	CTC	CCA	CCA	ACA	GCC	CCC
TAA	AAT		GTA	TCC	TGG	TAC	CAG	CAG A	CIC	CCA	GGA	ACA	GCC	CCC
		T T						A						
		_		/	CDR2							-/FR	3	
45	46	47	48	49 <u>Y</u>	50	51	52	53	54	55	56	57	58	59
R(K) <u>L</u>	L	I	Y	D	I		K	R	P		G	<u>I</u>	P_
AAA	CTC	CTC	ATT	TAT	GAC	AAT.	WAI	AAG	CGA	CCC	TCA	GGG	ATT	CCT
G						T T	C							
						T	C							
	·	62	62	64	65	66	67	68	69	70	71	72	73	74
-	-		C	\boldsymbol{c}	C	W.	S	G	7'	S	A	T	L	G
$\frac{D}{D}$	CGA	ጥጥር	TCT	GGC	TCC	AAG	TCT	GGC	ACG	TCA	GCC	ACC	CTG	GGC
GAC	COZI	110	• • •	000										
													/	CDR3
75	76	77	78	79	80	81	82	83	84	85	86	87	88	89
7	m	\boldsymbol{c}	Τ.	(1)	'/'	<i>1 →</i>	- 17	r.	A .	$\boldsymbol{\nu}$				
ATC	ACC	GGA	CTC	CAG	ACT	GGG	GAC	GAG	GCC	GAT	TAT.	TAC	160	GGA
														A
										/FR4	!			
	01	02		91	95	95A	95B	96	97	98	99	100	101	102
m	TAT.	D	C	C	T.	S	А	V	V	F.	G	G_		
A C A	TGG	GAT	AGC	AGC	CTG		г	GTC	GTA	TTC	GGC	GGA	GGG	ACC
						AGT	GC					C.	,	
						AGT	GC					G	}	
103	104	105	106	106	A107	108	109	110)					
K	\boldsymbol{L}	T	V	L	G	0	P_	K						
AAC	CTC	ACC	GTC	CTA	GGT	CAG	CCC	C AAC	3					



Sequence of MSI 19-D10 VH

														15	
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
CAG	GTG	CAG	CTG	CAG	GAG	TCG	GGC	CCA	GGA	CTG	GTG	AAG	CCT	TCG	GAG
Q	v	Q	L	Q	\mathbf{E}	S	G	P	G	L	V	K	P	S	E
														/ CDR	11
17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
ACC	CTG	TCC	CTC	ACC	TGC	ACT	GTC	TCT	GGT	GGC	TCC	ATC	AGT	AGT	
${f T}$	${f L}$	S	L	${f T}$	С	${f T}$	V	S	G	G	S	I	S	S	
			,	/FR2		. – – –									
32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	
TAC	TAC	TGG	AGC	TGG	ATC	CGG	CAG	CCC	CCA	GGG	AAG	GGA	CTG	GAG	
Y	Y	W	S	W	I	R	Q	P	P	G	K	G	${f L}$	\mathbf{E}	
		,	/ CDR	12											
47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	
TGG	ATT	GGG	TAT	ATC	TAT	TAC	AGT	GGG	AGC	ACC	AAC	TAC	AAC	CCC	
W	I	G	Y	I	Y	Y	S	G	S	T	N	Y	N	P	
			/	FR3											
62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	
TCC	CTC	AAG	AGT	CGA	GTC	ACC	ATA	TCA	GTA	GAC	ACG	TCC	AAG	AAC	
S	L	K	S	R	V	Т	1	S	V	D	T	S	K	N	
77	78	70								Ω1	Ω5	86	87	88	
/ / CA C	TTC	TICC	CTC	A A C.	CTC	02A	መርመ	CTC	7 C C	CCur	CCC	GAC	ACG	GCC	
CAG	F	rcc	CIG	AAG V	CIG	AGC	101	77	ጥ	Δ	Δ	n	TCG T	Δ	
Q	r	5	L	V	ע	၁	.5	V	•	А	Λ	ט	•	А	
						CDE	22								
	90	01			/	OF	06	07	00	00	100	1007	1100	21 000	,
89	TAT	AT.	92 mam	93	34	mcc	20	7 I	20	22	CTC	CTA	ጥአሮ	መአሮ ያፗህህር	•
GIG	TAT	TAC	TGT	979	AGG	106	GCA	CAG	CAG	CAG	CIG	GIA	V	V	
V	Y	¥	C	А	R	5	A	Q	Q	Q	L	V	1	1	
														,C.,	
		/	HH4											/Uμ-	,
1001	0 101	L 102	2 103	3 104	1 105	106	10	/ 108	3 10	9 110) 111	L III	. TT	3 114	Ł
TTT	GAC	TAC	TGG	GGC	CAG	GGA	ACC	CTG	GTC	ACC	GTC	TCC	TCA	GGG	
F	D	Y	W	G	Q	G	\mathbf{T}	L	V	T	V	S	S	G	



Sequence of MSI 19-D10 $V\kappa$

FR 1	/ -													
1	1 2	3	4	5	6	7	8	9	10	11	12	13	14	15
GAC	ATC	GTG	ATG	ACC	CAG	TCT	CCA	GAC	TCC	CTG	GCT	GTG	TCT	CTG
D	I	v	M	T	Q	S	P	D	S	L	A	V	S	L
								CDE)-1					
16	 17		10					24	25	26	27	273	278	270
10 T0	GAG	yCC To	GCC TA	ACC	ልጥር	AAC	TCC	AAG	TCC	AGC	CAG	AGT	GTT	TTA
e G	E	R	A	T	I	N	C	K	s	S	0	s	v	L
	_		-	_	_		_				_			
										. ===				
	27E								/	'FH2				
27D	27E AGC	27F	28	29	30	31	32 T3C	33 mma	34 CCM	35 mcc	30 mac	3 / CAC	28	
TAC	AGC S	TCC	AAC	AAT	AAG	AAC	TAC	T.	GC I	M	V	CAG	CAG	
x	3	3	7.4	7.4	K	74	•			**	•	×	*	
										/	CDR	2		
39	40	41	42	43	44	45	46	47	48	49	50	51	52	53
AAA	CCA	GGA	CAG	CCT	CCT	AAG	CTG	CTC	ATT	TAC	TGG	GCA	TCT	ACC
K	P	G	Q	P	P	K	L	L	T	¥	W	A	S	T
			/ FR3											
54	55	56	57	58	59	60	61	62	63	64	65	66	67 mam	68
CGG	GAA E	TCC	GGG	GTC	CCT	GAC	CGA	TTC	AGT	GGC	AGC	GGG	TCT	GGG
R	E	5	G	V	P	ע	K	F	3	G	3	G		J
	 70	·	72			·	 76	 77	70	70	80	 Ω1	82	83
0 <i>9</i>	GAT	/ T	7 Z	7.3 CTC	ACC	ATC	AGC	AGC	CTG	CAG	GCT	GAA	GAT	GTG
MCA.	D	F	η	T.	T	I	s	S	L	0	A	E	D	v
*		•	•	_	-	_	_	_		~				
							•							, EDA
						-								/FR4
84	85	86	87	88	89	90	91	92		94	95 com	96	97	98 mmc
	GTT								AGT S	ACT	P	L	T	F
A	v	Y	Y	С	Q	Q	Y	Y	3	1	P	لب	_	£
99	100	101	102	103	104	105	106	107	108	109	110	111	112	113
GGC	CCT	GGG	ACC	AAA	GTG	GAT	ATC	AAA	CGA	ACT	GTG	GCT	GCA	CCA
~	73	~	m	WP.	77	•	+	77	n	PPS	**	•	•	



FIG. 39A

Mixed Primary Glia sH-lgM.22 Ca²⁺ response

- ratio cell #1
- ratio cell #2
- \triangle sH-lgM.22 (3 μ g/ml)
- ▲ Br-A23187 (10μM)

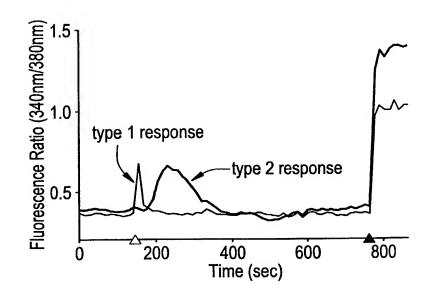


FIG. 39B

Mixed Primary Glia SCH 94.03 Ca²⁺ response

- ratio cell #1
- ratio cell #2
- **Δ** SCH 94.03 (3μg/ml)
- ▲ Br-A23187 (10μM)

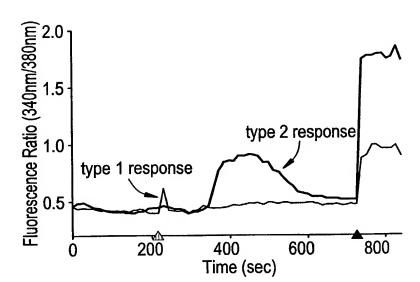


FIG. 39C

Mixed Primary Glia CH 12/sH-lgM.14 Ca²⁺ response

- ratio cell #1
- ratio cell #2
- A CH 12 (3μg/ml)
- sH-lgM.14 (3μg/ml)
- ▲ Br-A23187 (10μM)

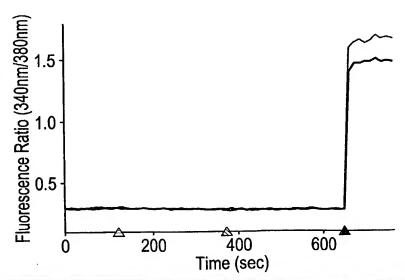


FIG. 40A

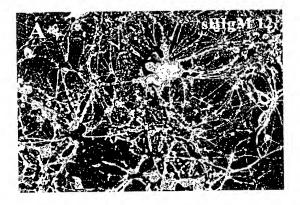


FIG. 40B

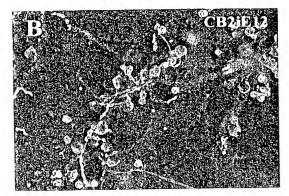


FIG. 41

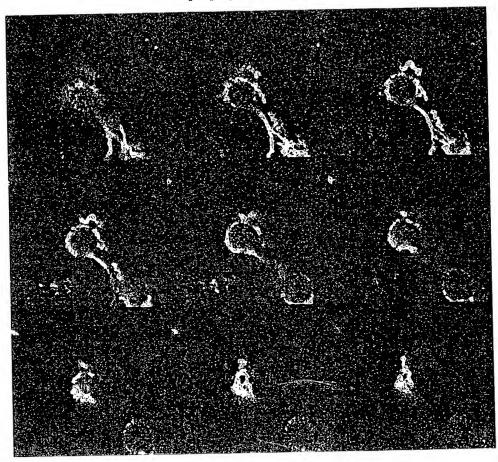


FIG. 42A

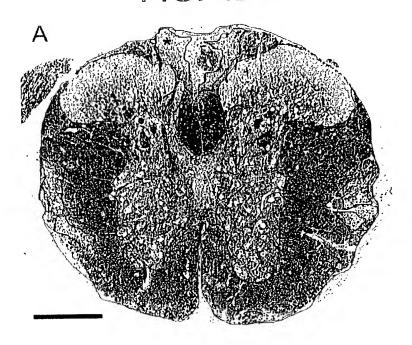
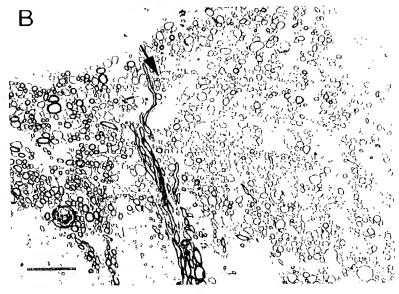


FIG. 42B





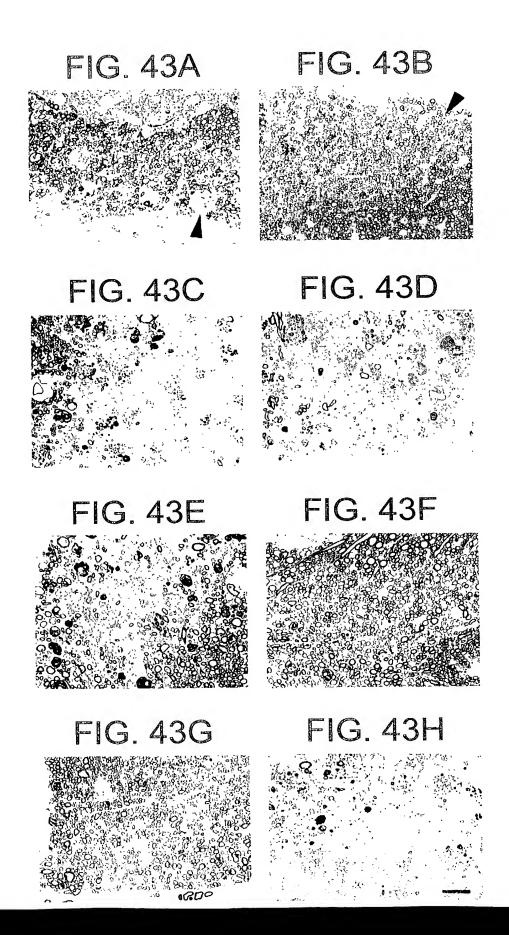


FIG. 44A

FIG. 44B

FIG. 44C

FIG. 44D

Translation of CB2b-G8 $V_{\scriptscriptstyle H}$:

1	5	R 1 - I 10 x AAG GCC	15 V V O P	G R S	20 L R L S CTG AGA CTC TCC
25 C A A S TGT GCA GCG TCT		CDR1 - 30 F S S Y TTC AGT AGC TAT	IMGT 35 GGC	40 M H	
11 D A 1/	C I F	T> 55 W V A V TGG GTG GCA GTT	I W I D	ע כי ט	1/
70	v v	75 G R F T GGC CGA TTC ACC	80 T S R D	и ѕ к	M G T 85 N T L Y AAC ACG CTC TAT
90	95 G F B	A E D T GCC GAG GAC ACG	100 A V Y Y	105 C A R	D R S S GAT CGC AGC AGT
CDR3 - IMGT G W Y W GGC TGG TAC TGC		15 S W G Q TCC TGG GGC CAG	GTLV	125 I V S C ATT GTC TCC	S TCA



Translation of CB2b-G8 V_{λ}

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<					F	R	1	-	1	М	G	1								
1			5					10	_	-	_		15 P	C	0	ď	т	20 T	т	c
					X TT	XGC	CTC		CTG	TCT	GGG	TCT	CCT	GGA	CAG	TCG	ATC	ACC	ATC	TCC
• • • • • •	• • •	• • •				noc														
															<	. 				
		>						CDR	L - 1	MGT					-					
		:5_			_	. 3	30	~	17	NT.	v	35				S 4	10 W	Y	o	0
C T CTG ACT	G	T	S	S AGT	GAC	ረጥጥ	GGT	GGT	TAT	AAC	TAT				GTC	TCC	TGG	TAC	CÃA	CÃG
CIG ACI	GGA	ACC	AGC	AG1	Onc	0														
_	_		_		_															<
F R	2	-	1	M	G	Τ .							CDR2	2 - 3	IMGT					
45				50					55			_		60					65	D
H P CAC CCA	G	K	A	P																GAT
CAC CCA	GGC	AAA	GCC	CCC	AAA	CIC	AIG	AII	INI	GAI	0.0		• • • •							
												Б.	n	2	_	т	м	G	T	
											-	r	R	3	-	_	11	G	•	
70 R P				75					80					85	_	_		_	_	-
R P CGG CCC	S	G	v	S		N	R	F	S	G	S	K NAC			ያ ጥርጥ	GGC	N	ACG	GCC	TCC
CGG CCC	TCA	GGG	GTT	TCT	• • •	AA'I'	CGC	TTC	TCT	GGC	100	AAG		• • •	101					
														>						
																	_CDR	3 -	IMGT	
90					95					100					105					110
	_	s	G	L	Q	A	E	D	E	A	D	Y mam	Y	TCC	S	S TCA	Y ጥልጥ	ACA	S	AGC
CTG ACC	ATC	TCT	GGG	CTC	CAG	GCT	GAG	GAC	GAG	GCT	GAI	IAI	inc	160	AGC	1011				
	-					115					120					125				
130										+									_	_
	v	v	F	G	G	G	T	K	L	T	V	L	G	Q	P	K	A	A	P	S
S S AGC TCT	GTG	GTA	TTC	GGC	GGA	GGG	ACC	AAG	CTG	ACC	GTC	CTA	GGT	CAG	CCC	AAG	GCT	GCL		. 100

FIG. 47A

DHFR amplification of 94.03k

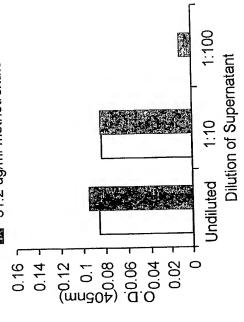
Ç 4

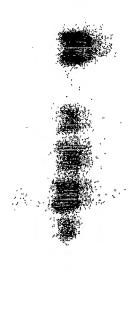
0.2 51.2 0.2 51.2 Neg Pos



Clone #5 Kappa Chain Elisa

0.2 ug/ml methotrexate 51.2 ug/ml methotrexate







Clone #4 Kappa Chain Elisa

[] 0.2 ug/ml methotrexate
[] 51.2 ug/ml methotrexate

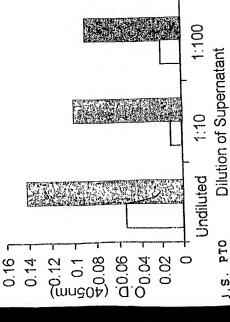
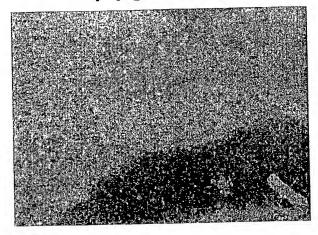




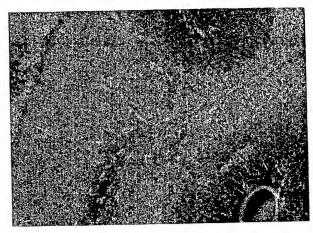


FIG. 49A



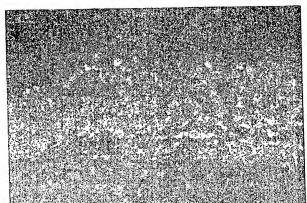
Mouse 94.03

FIG. 49B



Humanized 94.03 clone 1

FIG. 49C



Humanized 94.03 clone 2



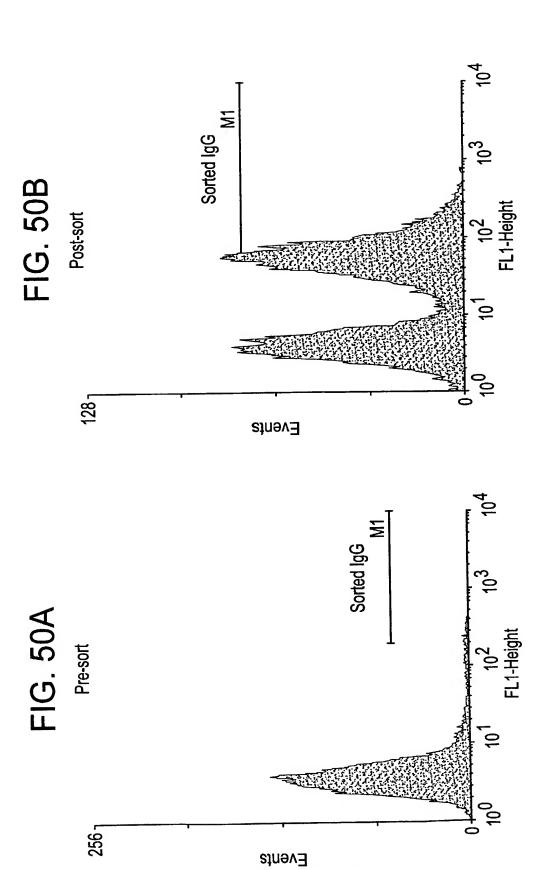
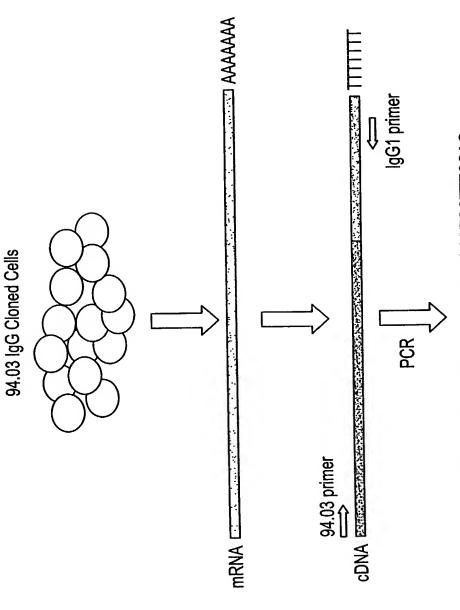




FIG. 51 Sequencing of 94.03 lgG



ATGCAGTTAACATGCATACTGAACTGCATGCTTTCCAG
Sequence with 94.03 V region plus lgG1



09 $V_{_{\rm R}}$ Sequence with translation:

< F R 1 - I M G T	
1	
CDR1 - IMGT	;
F R 2 - I M G T> <	
CDR2 - IMGT	
R P G Q G L E W I G W I Y P G N D N T K AGG CCT GGA CAG GGC CTT GAG TGG ATT GGA TGG ATT TAT CCT GGA AAT GAT AAT ACTAAG	1
FR3-IMGT	
70 75 80 85 Y N E K F K G L A S L T A D K S S T T A Y TAC AAT GAG AAG TTC AAGGGC CTG GCC TCA CTG ACT GCA GAC AAG TCC TCC ACC ACA GCC TAC	
>	
90 95 100 105 110 L H L S S L T S E S S A V Y F C A R G L P R	
TTG CAT CTC AGC AGC CTG ACT TCT GAG AGC TCT GCA GTC TAT TTC TGT GCA AGA GGG TTA CCT AG	G
CDR3 - IMGT 120	
G W Y F D V W G A G T T V T V S S A GGC TGG TAC TTC GAT GTC TGG GGC GCA GGG ACC ACG GTC ACC GTC TCC TCA GCT	



Translation of 09 kappa light chain 1:

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Cuarn r		,	უ წ	AAC AIT GIA AIG ACC CAA ICI CCC AAA ICC AIG ICC AIG ICA GIA GAG A
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C	ဂ ါ		×	ATG
Ĺ	G. 33		Þ	GTA
(י פ		Н	ATT
Ī	71G. 33	-	Z	AAC
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	CAA	•	ა
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	V GTT	IMGT	:
1	:	Ä	
	:	CDR2	:
ļ	•	8	
	:		S TCC
	35		A GCA
E.	:		ტ ტ
· IMGT	35	· ·	55 Y TAC
CDR1 -	YTAT	*	H ATA
8			L CTG A
	T P ACT	1	
	30 V GTT	₽	CTG
	V GTG	O	K AAA
	N AAT	×	50 CCT
	E GAG	н	a FOT
ì	SAGT	1	CAG
	25 A GCC	2	e Gag
1	K AAG	ĸ	ದ್ದ ಭ
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S AGT	
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ACA	
T T C	
75 R CGC	
D GAT	
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GTC	
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T ACT G	
Y TAC A	
ਲ CGG 1	

EH

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85

IMGT 110 Y TAT
s AGC
CDR3
969 C
CAG
105 G GGA C
,
C TGT
H
Y TAT
D GAT
100 A GCA
CIT
GAC
E GAA
A GCT
95 Q CAG
V GTG
E
90 L T I S S CTG ACC ATC AGC AG'
IATC
90 F
CIG A
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P Y T F G G G CCG TAC ACG TTC GGA GGG GGG



Translation of 09 kappa light chain 2: FIG. 54

;	E	U	ı <u>.</u> [:	!	T ACT	PK O
	N AAT	E E GAG	- T T ACT	i	C AC	IMGT 110 : Y A TAC
;	I ATT	o ga	ις ·	₽	뜨뒲	, щ.
	20 T ACT	Y		ტ	GAT	CDR3
	H ATT	¥ T		×	85 T ACA	CAT
1	T ACC	40 A A		н	G GGT	CAG
į	GAA A	L L TTA	IMGT	1	S TCT	105 CAA
	o GGA O	:	H : :	m	· ^	C D
	15 P CCT G		CDR2 6	吆		Y TAC
i	_		် လည် လည်	[±4	80 GGA .	Y TAT
E	F A TITI		1	•		M ATG T
ტ	K S	35	o GGA	!	S AGT	
×	A GCT	IMGT	s TCT	1	ပ ပို့	100 A A GCA
н	CTT	1 :	55 Y TAC		s AGT	ት ተተተ
i	10 Y TAT	CDR1 Y TAT	I ATC	į	F TTC	D GAT
Н	STCT	A A A A	CTT		75 R AGG	E Gaa
മ്പ്	CCA	30 S AGT	r Crr		s TCA	CCT
[t+	S	IATT	G K AAG		:	95 GAG
-	O CAG	S	M 50 N AAT	į	ರ್ ದ್ವಿ	ក្ ភូមិ
i !	F ACC (A K	I A T ACT		I ATT	s AGC
1	IATA	S AGT	- X X Y Y Y Y Y Y Y Y Y Y Y Y Y Y Y Y Y		70 0 0 0 8	SAGT
	CAG	25 A GCA	2 G GGA		S	ATC
i	V GTC (AGG (84 GC T	1	CAA	90 H
->	1 GAT (O D	F 45 RR AGA	1	L TTG	L CHO

¹¹⁵ P Y T F G G G CCG TAT ACG TTC GGA GGG GGG

Q R R W G Q G T L V T V S S G S A S P T L CAG CGT CGC TGG GGA ACC CTG GTC ACC GTC TCC TCA GGG AGT GCA TCC GCC CCA ACC CTT



FIG. 55 Translation of AKJR 4 Heavy Chain:

		•			,		
	S	CAG	;	Y TAT		ቸ የተዣ	IMGT 110 G P GT CCC
	CTC	28 262	Ĭ		۳	v GTG	ığ
!	20 R AGA	V GTC		:	യ	T ACG	CDR3
1	CIG	W		STCA	Σ	85 S AGC	GAG
i !	s Tac	8 8 AGC		S AGT	н	K AAG	CAG
	5 9 9 9	M ATG	E E	FH	ı	s TCC	105 A GCG
	ა ე		- IMGT	60 S AGT	m	N AAT	าธิก
	15 P CCT (CDR2		æ	D GAC	Y TAC
E4	O O CAG (υ	GGT	(tr.	80 R AGA	Y TAT
ტ	V GTA (35		SAGT		8 3 177C	I ATA
Σ	L TTG (GT – A GCC		CTT	!	IATC	100 A GCC
н	ဗ ၁၅	- IMGT Y A TAT GC	Ŷ	SS SAGT		T ACC	T ACG
ı	10	CDR1	1	r TCA		TTC TTC	D GAC
	ამე	I ATC		v GTC		75 R CGA	G B G
ĸ	9 9 9	30 F TTT	ا [⊷	ŢĞĞ		ر 960	₽
[1 4	S TCT (N N N	_U	E GAG	1	•	95 R AGA
!	GAA	F	×	50 L CTG	1	K AAG	CTG
!	5 L TTG (g g	н	g GGA		V GTG	S
	L CTA 1	S TCT (AAG AAG	1	o s TCC	S
	CAA CAA	25 A A GCC 7		ဗ ဗ္ဗဗ္ဗ		70 D S GAC TCC	L L
1	V GTG C	4 %		P C & 2)	1	A	90 0 CAA
V	1 E GAG G	CCTOT		45 A GCT 0	1	Y TAT	CHG



FIG. 56 Translation of AKJR 4 Kappa Light Chain:

} 	T ACT	Ç Ç	>	N AAT	!	ACT.	- IMGT 110 S Y AGT TAC
	IATC	CAG	v		H	F TTC	S AGT
	20 T ACC	Y		:	ט	E GAA	CDR3
	V GTC	W TGG		:	×	85 T ACA	Y
	R AGA	40 AA GCC			н	ັ _ບ ອູ	CAG
	DGAC	7. 1. T.T.G	IMGT	:	1	S TCT	105 CAG
	ტ ტეტ	1 :	Ĥ		ო	: 1	ပည္
1	15 V GTA	:	DR2		œ	:	Y TAC
E	S TCT		O	F	Œ	80 09 090	Y TAT
ტ	A GCA	35		₽ GCG		s AGT	TACT
Σ	S TCT	IMGT		X AAG		ဗဗ္ဗ	100 A GCA
н	CIG	हों : ।	?	55 Y TAT	į	R AGA	S TCT
1	10 T ACC	CDR1		I ATC	į	F TTC	D GAT
Н	s TCC	AGC AGC	; ;	r CTG	į	75 R A AGG	D GAT
œ	PCCT	30 S AGT	E	L		s TCA	PCCT
[z ₄	s TCT	IATT	ტ	K AAA		:	95 CAG
	CAG	S AGT	×	50 P CCT	1	අ දුට්	Circ
1	5 ACC	CAG	н	₽		V GTC	s AGC
1	MATG	S AGT	ı	k AAA		70 G GGG	S S AGC A
1	Q CAG	25 A GCC	7	ა მ <u>ვ</u>	1	s AGT	I
 	IATC	R CGG	æ	P CCA	•	e Gaa	90 T
 	1 D GAC	13c	ſτι	45 K AAA	1	I TTA	CTC



Translation of CB2i-E12 Heavy Chain: FIG. 57

	20 E A S V K V S G GAG GCC TCA GTG AAG GTC TCC
1	15 x x XCG
₽	K AAA
ტ	× AXG
×	x x XAX AXG
ы	x x xag xax
1	10
	R AGG
ĸ	× ç.
ᅜ	
1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	
 	H :

		Q CAG	! !	N AAC	! ! !	Y TAC
		R CGA	·		E-1	A GCC
		V GTG		:	ധ	T ACA
		M TGG		ACA	×	85 S AGC
		40 H CAC		ი ე	н	I ATC
		M ATG	IMGT .	ი მ	1	S
		:	Σi I	60 S AGT	М	T ACG
		•	CDR2	N AAC	pc;	D GAC
		:	0	CCT	ſĿ,	80 R AGG
	1	35 .		N AAC		T ACC
	G.J.	Y TAT		IATC	1	M ATG
	- IMGT	$^{ m Y}$	^ ·	55 TGG		ACC
	CDR1		1	G GGA		V GTC
	O	TACC		M ATG	į	75 R AGG
		30 F TTC	- E-1	TGG TGG	1	9 9
		T ACC	ტ	E GAG		•
		Y TAC	Ħ	50 L CTT		2 CAG
		g GGA	н	ტ ტტტ	!	F TTT
٨		STOT	1	CAA		70 K AAG
1		25 A GCT	7	G GGA		Q CAG
1		K AAG		CCT	 	A GCA
1		ဂ [ĮΞι	45 A GCC	!	Y TAT

A !	<u> </u>	
	1	

90 M E L S R L R S D D T A V Y Y C A R D R S ATG GAG CTG AGA TCT GAC GAC ACG GCC GTG TAT TAC TGT GCG AGA GAT CGA TCG	110	≯	TAT
90 E L S R L R S D D T A V Y Y C A R D R GAG CTG AGG TCT GAC GAC ACG GCC GTG TAT TAC TGT GCG AGA GAT CGA		ഗ	TCG
90 E L S R L R S D D T A V Y C A R GAG CTG AGG TCT GAC GAC ACG GCC GTG TAT TAC TGT GCG AGA		œ	CGA
90 E L S R L R S D D T A V Y Y C A GAG CTG AGG TCT GAC GAC ACG GCC GTG TAT TAC TGT GCG		Д	GAT
90 E L S R L R S D D T A V Y Y C GAG CTG AGA TCT GAC GAC ACG GCC GTG TAT TAC TGT			AGA
90 E L S R L R S D D T A V Y Y GAG CTG AGA TCT GAC GAC ACG GCC GTG TAT TAC	105	K	909
90 $ \begin{array}{ccccccccccccccccccccccccccccccccccc$	ı		
90 E L S R L R S D D T A V GAG CTG AGA TCT GAC GAC ACG GCC GTG		×	TAC
90 E L S R L R S D D T A GAG CTG AGA TCT GAC GAC ACG GCC		×	
90 E L S R L R S D D T GAG CTG AGA TCT GAC GAC ACG		>	
90 E L S R L R S D D GAG CTG AGG CTG AGA TCT GAC GAC	100		
90 E L S R L R S D GAG CTG AGA TCT GAC		₽	ACG
90 E L S R L R S GAG CTG AGA TCT		Д	GAC
90 E L S R L R GAG CTG AGA		Д	GAC
90 E L S R L GAG CTG AGC AGG CTG		ഗ	TCT
90 E L S R GAG CTG AGC AGG	o S	ρź	AGA
90 E L GAG CTG		Ļ	
90 E L GAG CTG		ρ	AGG
90 E GAG		U	AGC
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M ATG	σ	d c	GAG
		ž	ATG

		H	ACC
(1725	>	GTC
			CIG
		E	ACC
		ტ	GGA
		Ø	CAG
	120	ტ	363
			TGG
		M	TAC
			GAC
		Ĺτή	TTT
	115	N Z	TAC
		z	AAC
MGT		Ľ	r n
H !		C	GGA
CDR3		ρ	CCG



Translation of CB2i-E12 kappa chain: FIG. 58

1 5 10 15 20 E R A T L S L S P G E R A T L S QAA ATT GTG TTG TCT CCA GGC ACC CTG TCT TTG TCT CCA GGG GAA AGA GCC ACC CTC TCC E ტ × Н Н œ

	රු	ļ	, Q	1	T ACT	IMGT 110 S : TCT
!	Q G CAG	· · · · · · · · · · · · · · · · · · ·	s . AGC	i		DAT O
	Q CAG		65	E⊣	F. TTC	3 - S S PAGC
	Y TAC		:	മ	D GAC	CDR3
 	w TGG			×	5 T ACA	Y
! !	40 A GCC 7			н	8 9 9 GGG	O CAG
1	L TTA (E+ rh	:	1	S TCT	105 Q CAG (
~		- IMGT		ω	: '	C TGT
		CDR2 .		民	:	Y TAC
		Ü	S TCC	Įτι	80 6	Y TAT
	35		A GCA		s S AGT	V
	E.		G GGT	! ! !	ဗဗ	100 A GCA (
	- IMGT Y TAC	٨	55 Y TAT	!	S AGT	F
	CDR1) 	I ATC		TH. C	D GAT
	S AGC	1	CHC CHC		75 R : AGG	E
	30 S AGC	ı Eı	GIC		D GAC	P
	V GTT	ტ	R AGG		:	95 E GAG
	SAGT	Σ	50 P CCC		CCA CCA	L
	CAG	H	A GCT		I ATC	R AGA
/	ST	ı	O CAG	1	္ ဗ ဗ ဗ ပ	S AGC
	25 A GCC P	73	ဗ ဗ္ဗဇ္ဗ	1	70 T ACT G	I
	R AGG	rk	PCCT	1	4 900	90 T
	2 D	ĺμ	45 K P G C AAA CCT GGC CP	1	R AGG	L CHO

¹¹⁵ H T F G Q G CAC ACT TTT GGC CAG GGG



Translation of CB2i-E7 Heavy Chain: FIG. 59

,					!	C.	10.
	S	Q CAG	; ;	n AAC	!	Y TAT	110
į	I CTC	7 P	•	. 65	۲	r CHG	လ ဋိ
	20 R AGA	I ATC		:	ტ	s TCA	× 5
	CTG	w TGG		TACA	Z	85 N AAC	Д С
	S TCC (40 S AGC		⊈AC	н	k AAG	K (
	5 999	M ATG	IMGT	L	1	A GCC	105 A
į	G GGA (Ŭ. L	60 S AGT	т	N AAC	^ ' U
	15 P CCT (CDR2		民	GAC	
, E4	K AAG (:	5	S AGT	ſτι	80 R AGA	×
ტ	orc 2	35		S		န ၁၁	
×	L TTG (IMGT Y TAC		I ATT	1	I ATC	100 A
ы	ဗီဗီ	- I Y TAC	Ŷ	55 Y TAC		₽ ACC	E
ı	0 .	CDR1 D GAC	 	S TCA		T T C	ρ
\leftarrow	× &	S	1	V GTT		75 R CGA	ш
吆	:	30 F TTC	ا [4	W TGG	1	ე ტ	4
Ĺτι	•	T	ტ	e Gag		:	95
;	•	P P T C	×	50 L CTG	 	K AAG	1
	ب ن	GGA	н	ტ	1	V GTG	8
1	:	y S	1	K AAG	 	70 S TCT	2
1	:	25 A GCC '	7	9 9 9 9	! ! !	D GAC	E
1	•	A GCA (ρú	PCCA	1	A GCA	06
· •		C TGT (<u>г.</u>	45 A GCT	1 1 1	Y TAC	4

CTG CAA ATG AAC AGC CTG AGA GCC GAG GAC ACG GCT GTG TAT TAC TGT GCG AGA GAT CGG TCG AGC S S W Y Y Y G M D V W G Q G AGC TGG TAC TAC TAC TAC GGT ATG GAC GTC TGG GGC CAA GGG CDR3 - IMGT



Translation of CB2i-E7 kappa Chain: FIG. 60

1 D I Q M T Q S P S L S A S V G D R V T I T GAC ATC CAG ATC CCA TCC TCC CTG TCT GCA TCT GTA GGA GAC AGA GTC ACC ATC ACT ۲ G × н ı Н ρζ

	Q CAG	!	T ACT	! ! !	T ACT	IMGT 110 C TGC
1	CAG	•	. 65	٤٠	F TTC	- K AAG
1	Y TAT (:	G	D GAT	CDR3 N AAC
; ! !	W TGG			×	85 T ACA	Y
	40 A GCC			н	999	K AAG
1	L L TTA (l E	:	ı	STCT	105 O CAA
·	:	- IMGT		m	: '	C Tight
	•	CDR2	:	ద	:	Y TAC
		5 1	S TCC	Ľι	80 9 66A	Y
	32	į	A GCA		s AGT	T. TACT
H.			A GCT (1	ဗဗ	100 A GCA
- IMGT		, ^	55 Y TAT	1	N AAT	V GTT
CDR1	Y TAT	1	I ATC	1 	FTTC	D GAT
ნ 	N AAT		L	 	75 R CGG	E
	30 S AGC	i E⊣	r CTC	1	S TCT	P
	I ATT	r G	K AAG	 	:	95 Q CAA
	ა მ	¥	50 P CCT		CCA	L
	Q CAG (V GTT	1 1	V GTC	S
^	S AGT (1	K AAA	! ! !	70 G	S AGC
	25 A GCG	2		 	S TCA	I
1	, R	ρ¢	P G CCA GGG	!!!	O	90 T
; 1 1	ဂ ဂရို	[E4	45 K AAA (1	L	L CTC

¹¹⁵ PSHFRGRD CCCTCTCACTTTCGGGGGGAGGGAC



Translation Of MSI 19-E5 Light Chain

EH ט Σ н

	CAG
	CAG CAG
	¥ SAC
	TGG
	GCT.
	40 Y L A W TAC TTA GCT TGG 1
1	Y TAC
	z K
	35 N N N J AAC AAT AAC A
	35 N AAT
IMGT	N AAC
Σi	s TCC
CDR1	S AGC
υ 	F TTC
	30 L F S TTA TTC AGC
	F .
	S V AGT GTJ
	R CGG
î '	s AGC
A ! ! ! ! ! ! ! ! ! ! ! ! ! ! ! ! ! ! !	25 K S S AAG TCC AGC
1	K AAG
1	n TgC

,	T ACC	1 1 1	TACT
1		E	F
	:	ប	D GAT
	:	Σ	85 T ACA
	:	н	ი გემ
MGT	9	,	s TCT
CDR2 - IMGT		m	:
CDR2	:	ps;	:
	S TCT	[II4	8 0 0 0 0 0
	4 GC &		S AGC
	1	!	S G AGT GGC
^	55 Y Y TAC		s AGT
	L E	;	F TTC
^	i E	;	75 R CGA
₽	CIA		D GAC (
ט	K AAG		:
Σ	50 P CCT	1	P CCT
н	P	i	70 S G V P TCC GGG GTC CCT
	CAG CAG	1	7.0 G
73	g GGA	1	s TCC
R 2	P G Q CCA GGA CAG		E
ւս	45 K AAA	1 1 1	ය පු

		0			
	H	110	H	Ę	ָלָ נ
	CDR3		ß	Ę	194
	ا		×	E	IAI AGI ACI
			×	E 6	IAI
			0	, r	\$
		105	O	, t	S.A.G.
^!		1	U	, [IGI.
			>	4	TAC
			>	•	TAT
1111			V V	>	GLT
1 1 1		100	K	Ç	gC.
1 1 1				>	GTG
1 1			t	٦	GAT
1			t	리	GAA
1			,	∢	GCT
1		9	, (O!	CAG
			,	J	CTG
	:		1	ທ	AGC
1				ഗ	AGC
) 			н	CTC ACC ATC AGC AGC CTG CAG GCT GAA GAT GTG GCA GTT TAT TAC TGT CAG CAA TAI IM
	! !	ć	2	E	ACC
				ы	CTC
	•				

MGT

P I T F G CCA ATC ACC TTC GGC



FIG. 62 Translation of 04 kappa chain 2:

1 D I V M T Q S H K F M S T S V G D R V S I T GAC ATC GTA ATG ACG CAG TCT CAC AAA TTC ATG TCC ACT TCA GTA GGA GAC AGG GTC AGC ATC ACC H G ρď

c	CAG	! !		Y	1	T ACT	IMGT 110 T T ACT
40	CAA	<u> </u>		:	E	F	- IN T ACT
4	TAT			:	ტ	D GAT	CDR3
	TGG		09	:	Ħ	85 T ACG	H
	ညည		φ	:	н	9 9	CAA
	GTA (IMGT		:	ı	S TCT	105 Q CAG
ls.	:	∺		:	ω	: '	TGT D
33	:	CDR2		:	ρ¢	:	Y
	:			နှင့်င	Įτι	80 G GGA	Y TAT
			55	A GCA		S AGT	V GTT
턴	:			S TCG		_တ တ္တ	100 A GCA
- IMGT		^		Y		T ACT	r CTG
CDR1 -	A GCT		0	I ATT	1	TTC	D
ე 	T. ACT (r Crig	1	75 R CGC	E
1	S AGT	i Er	50	L CTA	1	D GAT	A
1	CTG	ტ		X AAA	 	:	95 Q CAG
	D GAT (M		сст		PCCT	V GTG
25	ÇAG (Н		s TCT		V GTC	SAGT
t	S AGT (, ,		CAA .	 	70 G	S
	₽ 8CC 7	7	4	9 GGA	1	T ACT	I ATC
	K AAG 0	K		P CCA (Y TAC	90 T
	C TGC A	jų įų		65 K AAA (R CGG	F

¹¹⁵ P L T F G A G CCG CTC ACG TTC GGT GCT GGG



FIG. 63A

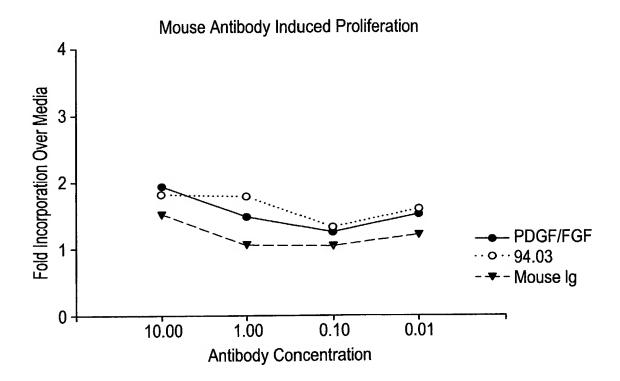


FIG. 63B

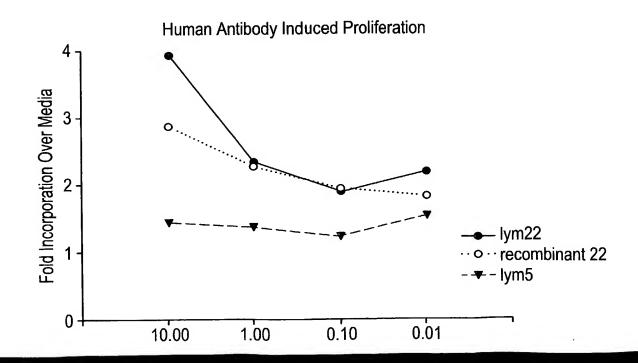
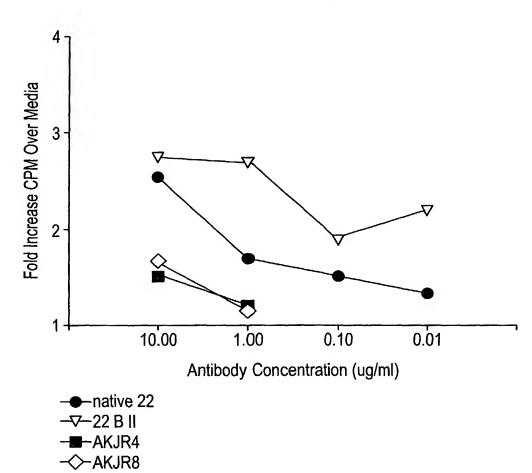




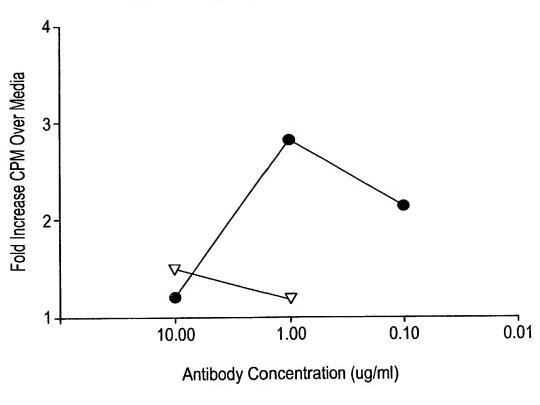
FIG. 64

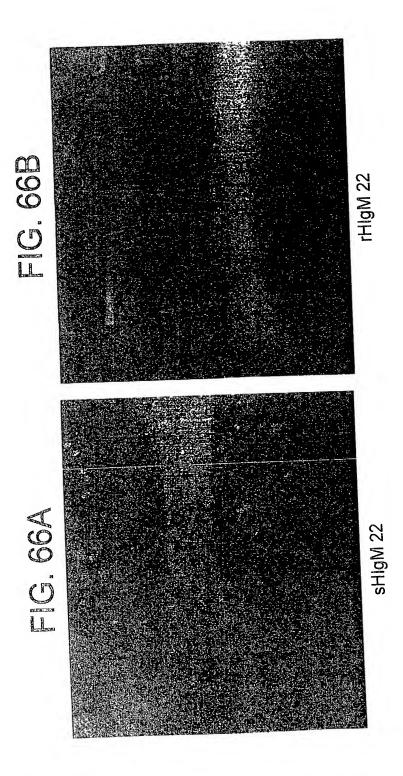
Human Antibody Induced 3H Thymidine Incorporation





Mouse Antibody Induced 3H Thymidine Incorportion







TRANSLATION OF O1 KAPPA CHAIN

FIG. 68

					,		
	N AAT	E GAG	!	T ACT	İ	ACT.	IMGT 110 3 Y AA TAC
	IATT	CAA		က စ •	E	TTC	- IN GAA
	20 T ACT	Y	i i	:	G	D GAT	CDR3 N AAT
į	T ATT	T & L		:	Σ	85 T ACA	H
	T ACC 1	40 A GCC		:	н	G GGT	Q CAG
	E GAA 1	L	IMGT	:	1	S TCT	105 Q CAA
į	GGA (WI -		ო	: ĵ	, or
	15 P CCT (CDR2	:	rx,		Y TAC
E	s TCT	:		S	ſΞij	80 9 66A	Y TAT
ტ	A GCA	35		G GGA		s AGT	M ATG
Σ	A GCT	IMGT		S TCT	1	ဗ ဗဗ္ဗ	100 A GCA
н	L	1 :	^ 1	55 Y TAC		S AGT	F
ı	10 Y TAT	CDR1 Y TAT		I ATC		H H C	D GAT
, - 1	s TCT	K	 	CIT		75 R AGG	E GAA
CC,	PCCA	30 8 AGC	l [→	L		S TCA	CCT
ſτι	s TCT	IATT	ტ	K AAG		:	95 E GAG
1	Q CAG	S	Σ	50 N AAT		PCCA	GIG GIG
1	5 T ACC	K AAG	H	TACT		I ATT	SAGC
1	I ATA	s AGT	ı	K AAA		70 G GGA	S
1	CAG	25 A GCA	7			STCT	ATC
 	V GTC	R AGG	14	P CCT	,	caa	90 PCC
\ \ \	1 D GAT (0 H GC	ĺΞι	45 K AAA	 	L TTG	1 H

PYTFGGGGGGGGGCTGGAATAAAACG



FIG. 69 TRANSLATION OF HNK-1 KAPPA CHAIN

	T ACT	- Q CAG	 	S AGT	1 1 1	S TCT	IMGT 110 S F GT TIT
	I CHO	OCAG	-		H	Y TAT	S AGT
	20 S AGT	L		•	ტ	D GAT	CDR3 A A CCT
	orc y	T & T			Σ	85 S TCA	Y
	R AGA (40 N AAC			Н	999 9	CAA
	E GAA 1	L TTA	IMGT	:	ı	S TCI	105 L CTA
1	G GGA (Žİ I	09	m	: 1	L D TGT
	15 L CTG (CDR2		æ		Y TAC
' [+	s TCT (:	υ	နိုင္ငင္	Įτι	80 R AGG	Y TAT
ტ	₽ 900	335		T ACA		SAGT	D GAC
Σ	s TCT	IMGT		A GCC	-	ဗ ပ္ပ	100 V GTA
н	ı TIA	# :	Ŷ	Y Y TAC	! !	s AGT	H H H H
1	10 S TCC 1	CDR1 S AGC	1	ATC	1	THC	D GAT
⊣	နှင့် ၁၁	S		CTG		75 R AGG	E GAA
α,	P CCA 7	30 G GGT 2	ı E⊣	CGC	1	K AAA	S TCT
Įz.,	S TCT (I	ტ	K AAA		•	95 E GAG
!	CAG 7	D	Σ	50 I ATT	1	۳) ر	L
	5 T ACC (O CAG		TACT	1	\ G G	SAGC
	M ATG A	•	1	9 9	1 1 1	70 G GGT	s AGC
	Q AG	25 A 35	2	D GAT	1	STCT	I S ATC AGC
	I S ATC C	% CGG	œ.	P CCA (D GAT	90 90 ACC
\ \ \	1 D GAC P	C LOIL	Ĺ	45 E GAA (1 1 1	70 L D S G TTA GAT TCT GGT G	CIC

P Y T F G G G T K L E I K R CCG TAC ACG TTC GGA GGG GGG ACC AAG CTG GAA ATA AAA CGG



FIG. 70 TRA

TRANSLATION OF A2B5 KAPPA CHAIN

!	
 	S TCC
ł	I ATA
[- (20 V T GTC ACC A
G	V GTC
Σ	K AAG
Н	E K GAG AAG (
1	ဗ ဗ္ဗ
\leftarrow	S P P C P P C P P P P P P P P P P P P P
œ	s CT C
[x4]	15 S A S P S TCT GCA TCT CCA G
	SCTG
	M ATG T
	I I ATC A
	10 A
!	
	CCA
į	S TCT
1	Q CAG
	5 T ACC
1	CHC
i 1	I V ATT GTT
1	CAA

	CAG	<u> </u>	N AAC	1	s TCT	IMGT 110 3 Y 5T TAC
	CAG	\ \		₽	Y TAC	S AGT
1	Y TAC		•	ധ	S TCT	CDR3
	W	0	:	Σ	85 T ACC	Y TAT
	40 Y TAC		:	н	9 999	Q CAG
<u>;</u>	M ATG	IMGT	:	1	s TCT	105 Q CAG
	•	WI -	· ·	ო	•	, n
	:	CDR2	:	æ	:	Y
		5 	တ္မ ည	[24	80 G GGG	Y
			T ACA		S AGT	TACT
			78 060	-	ဗ ဗ္ဗ	100 A GCC
- IMGT	:	<u> </u>	55 Y TAT		s AGT	A GCT
CDR1 .	:		I ATT	1	H H H H C	DGAT
อ	Y	1	T G G	1	75 R CGC	E GAA
	30 S AGT	i [→	P CCC	1	A GCT	A GCT
	V GTA	უ ტ	K AAA	1	:	95 E GAG
	S AGT (Σ	50 CCC		PCCT	MATG
	S TCA 7	н	s TCC	1	v GTC	S
î	S AGC :	1	s TCC	1	70 G GGA	s AGC
İ	25 A GCC 1		G GGA	!	S	I A ATC
; ! !	S AGT (CCA		A GCT	06 17
i 	7 J		45 K AAG		CIG	I CTC 7

PLTFGAGTCGGACCAAGCTGAAACGG



LYM 46 Heavy Chain Sequence:

			FF	₹ 1										
E	v	Q	L	v	E	S	G	G	G	L	V	Q	P	G
GAG	GTG	CAG	CTG	GTG	GAG	TCT	GGG	GGA	GGC	TTG	GTC	CAG	CCT	GGG
												CDI		
G	S	L	R	L	S	С	A	A	S	G	F	T	F	
GGG	TCC	CTG	AGA	CTC	TCC	TGT	GCA	GCC	TCT	GGA	TTC	ACC	TTT	AGT
							FR 2	'	-	D	G	K	G	L
s	Y	W	M	T	W	V	R	Q	CCT	CCA	CCC			
AGC	TAT	TGG	ATG	ACC	TGG	GTC	CGC	CAG	GCT	CCA	GGG	AAG	GGG	ÇIG
	CDR2													
E	W	V	20.	N	T	ĸ	K		G	S	E	K	s	Y
GAG	TCC		GCC.	AAC	ATA	AAG	AAA	GAT	GGA	AGT	GAG	AAA	TCC	TAT
GAG	199	GIG	300											
FR3 V D S V K G R F T T S R D														
v	D	s	V	K	G	R	F	T	T	S	R			A
GTG	GAC	TCT	GTG	AAG	GGC	CGA	TTC	ACC	ACC	TCC	AGA	GAC	AAC	GCC
													73	
K	N	S	L	Y	Ļ	Q	M	N	S	L L	K	A	- E	D
AAG	AAC	TCA	CTG	TAT	CTG	CAA	ATG	AAC	AGC	CTG	AGA	GCC	GAG	GAC
									CD:	DЗ				
		77	v	v		<u> </u>	R	P			G	G	D	C
T	A	V CMC	m » m	my C	mem	GCG.	DCD.	CCC	ידעע	TGT			GAC	_
ACG	GCT	GTG	IMI	IAC	161	GCG	AGI							
Y	L	P	W	Y	F	D	L	W	G	R	G	T	L	v
ጥልጥ	ው ተሞል		TGG	TAC	TTC	GAT	CTC	TGG	GGC	CGT	GGC	ACC	CTG	GTC

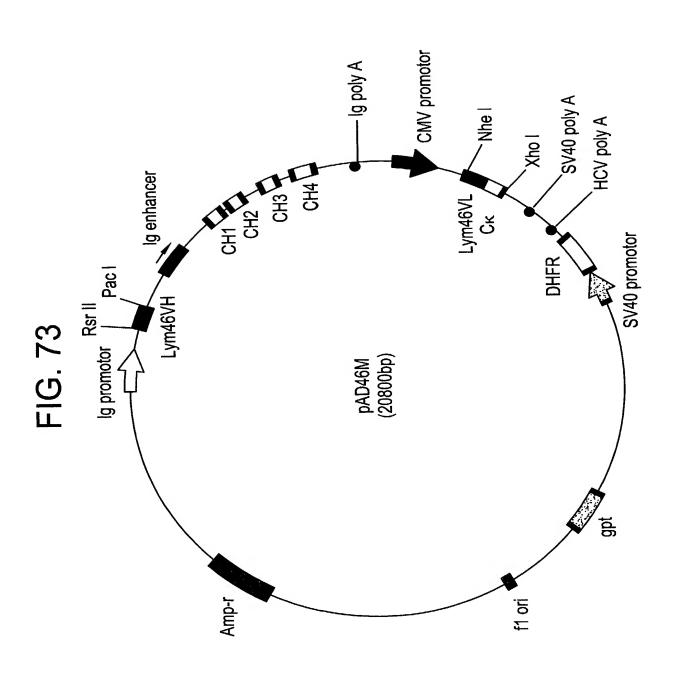
т	v	s	s											
			TCA											
		_												

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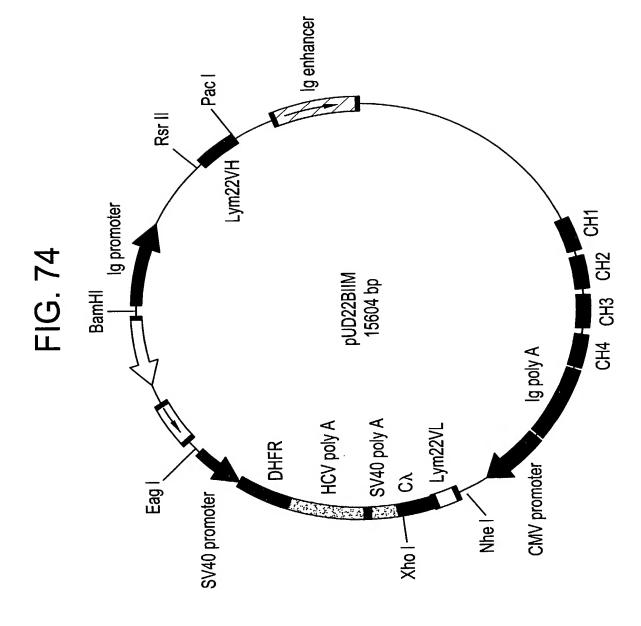


FIG. 72	di En											
CHAIN SEQUENCE: F R 1 - I M G T			1 1 1	N AAC		CAG		ACC		ACT.	110 110 ACT	
CHAIN SEQUENCE: F R 1 - I M G T			 		 			. 65	H	H H H H C	- IN AAT	
CHAIN SEQUENCE: F R 1 - I M G T								:	O	D GAT	CDR3	o s TCT
CHAIN SEQUENCE: F R 1 - I M G T			 		 			:	Σ	85 ACA	TAT	
CHAIN SEQUENCE: F R 1 - I M G T			 			GCT		:	н			
CHAIN SEQUENCE: F R 1 - I M G T - 15 G G G G G G G G G G G G G G G G G G			 				1GT	' :	ı	STCT		
FIG. 72 CHAIN SEQUENCE: F R 1 - I M G T - 15 S P D S L A V S L S C C C G G C G G G T C C C G G C T C C G G C T C C G G T C C C G G C T C C G G T C C C C			 		Ì		Ä		ო	: /		
CHAIN SEQUENCE: F R 1 - I M G T S P D S L A V S G TCT CCA GAC TCC CTG GCT GTG TCT CDR1 - IMGT 30 V L Y S S N N K G T> T AAA CTA TC ATT TAC TGG GCA TCT T AAA CTA TTC ATT TAC TGG GCA TCT T AAA CTA TTC ATT TAC TGG GCA TCT T AAA CTA TTC ATT TAC TGG GCA TCT T AAA CTA TTC ATT TAC TGG GCA TCT T AAA CTA TTC ATT TAC TGG GCA TCT T AAA CTA TTC ATT TAC TGG GCA TCT T AAA CTA TTC ATT TAC TGG GCA TCT T AAA CTA TTC ATT TAC TGG GCA TCT T AAA CTA TTC ATT TAC TGG GCA TCT T AAA CTA TTC AGT GGC AGC GGG T AAA CTA TTC AGT GGC AGC GGG T AAA CTA TTC AGT GCA GTT TAY TG CAG GCT GAA GAT GTG GAA ATC AAA CG			1 			AAC			ø	•		5 T ACT
CHAIN SEQUENCE: F R 1 - I M G S P D S L A V GTT TTA TAC AGC TCC AAC AAT G T			H			AAG	O	S TCT	ĺΞι		3	
CHAIN SEQUENCE: F R 1 - I M S TCT CCA GAC TCC CTG GCT S TCT CCA GAC TCC CTG GCT C T TTA TAC AGC TCC AAC G T G T T AAA CTA TTC ATT TAC TGG T AAA CTA CTC ATT TAC TGG T AAA CTA CTC ATT TAC TGG T AAA CTA CTC ATT TAC TGG T AAA CTA CTC ATT TAC TGG T AAA CTA CTC ATT TAC TGG T AAA CTA CTC ATT TAC TGG T AAA CTA CTC ATT TAC TGG T AAA CTA CTC ATT TAC TGG T AAA CTA CTC ATT TAC TGG T AAA CTA CTC ATT TAC TGG T AAA CTA CTC ATT TAC TGG T AAA CTA CTC ATT TAC TGG T AAA CTA CTC ATT TAC TGG T AAA CTA CTC ATT TAC TGG T AAA CTA CTA TC ATT TAC TGG T AAA CTA CTA TC ATT TAC TGG T AAA CTA CTA TC ATT TAC TGG T AAA CTA CTA TC ATT TAC TGG T AAA CTA CTA TC ATT TAC TGG T AAA CTA CTA TT TAC TGG T AAA CTA CTA TTA TAC TGG T AAA CTA CTA TTA TAC TGG T AAA CTA CTA TTA TAC TGG T AAA CTA TTA TAC TGG T AAA CTA TA TAC TAC TGG T AAA CTA TTA TAC TGG T AAA CTA TAC TAC TAC TGG T AAA CTA TAC TAC TAC TGG T AAA CTA TAC TAC TAC TGG T AAA CTA TAC TAC TAC TGG T AAA CTA TAC TAC TAC TGG T AAA CTA TAC TAC TAC TGG T AAA CTA TAC TAC TAC TGG T AAA CTA TAC TAC TAC TGG T AAA CTA TAC TAC TAC TGG T AAA CTA TAC TAC TAC TGG T AAA CTA TAC TAC TAC TGG T AAA CTA TAC TAC TAC TAC TGG T AAA CTA TAC TAC TAC TGG T AAA CTA TAC TAC TAC TGG T AAA CTA TAC TAC TAC TAC TGG T AAA CTA TAC TAC TAC TAC TGG T AAA CTA TAC TAC TAC TAC TGG T AAA CTA TAC TAC TAC TAC TGG T AAA CTA TAC TAC TAC TAC TGG T AAA CTA TAC TAC TAC TAC TGG T AAA CTA TAC TAC TAC TAC TGG T AAA CTA TAC TAC TAC TAC TAC TGG T AAA CTA TAC TAC TAC TAC TAC TAC TAC TA		72	O			N AAT		gca a		S AGC	1	
CHAIN SEQUENCE: F R 1 - I S P D S L CDR1 - IN 30 T GTT TTA TAC AGC TCC G T G T T AAA CTA CTC ATT TAC B R F S T AAA CTA GTC ATT TAC G T 120 G T 120 G T 120 G T 120 G T			Σ			AAC		7 ₹ 10 €	1		1	
CHAIN SEQUENCE F R 1 - S P D S CDR1 30 T GTT TTA TAC AGC G T		Ĕ ;;	н		ΣH	နှင့်င	Ŷ	SS Y	!	S AGT	1	
CHAIN F R R T GTT TTT G T G T G T G T AAA CT AAA CT AAA CT AAA CT AAA CT AAA CT AAA CT AAA GG AC		INCE	i	7.1	DR1		1	I ATT	1	H H C	GAT.	o V GTG
CHAIN F R R T GTT TTT G T G T G T G T AAA CT AAA CT AAA CT AAA CT AAA CT AAA CT AAA CT AAA GG AC		EQUI	н		Ö			GE		75 R CGA	1	
CHALL TO THE TARK THE GOOD OF THE CHALL THE CH		N S	æ			O TIT	•	L		D GAC		
		HAI	Ĺτι			GTT	ტ	R AAA	ì	•	95 040	999
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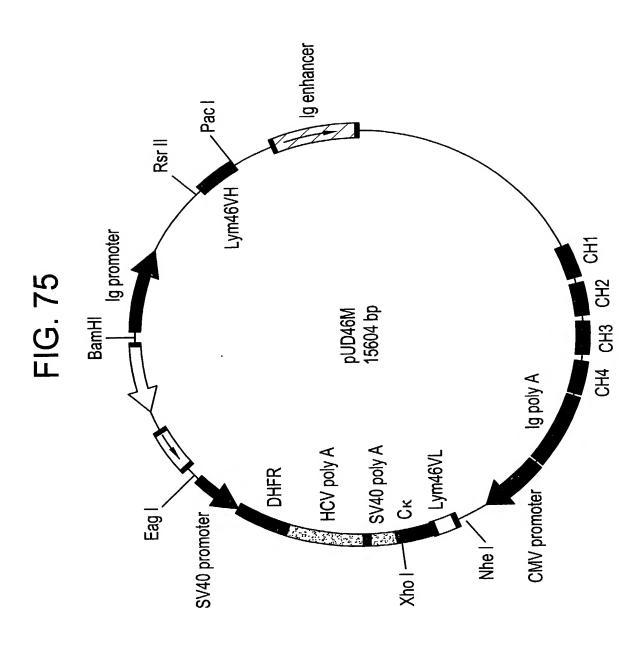




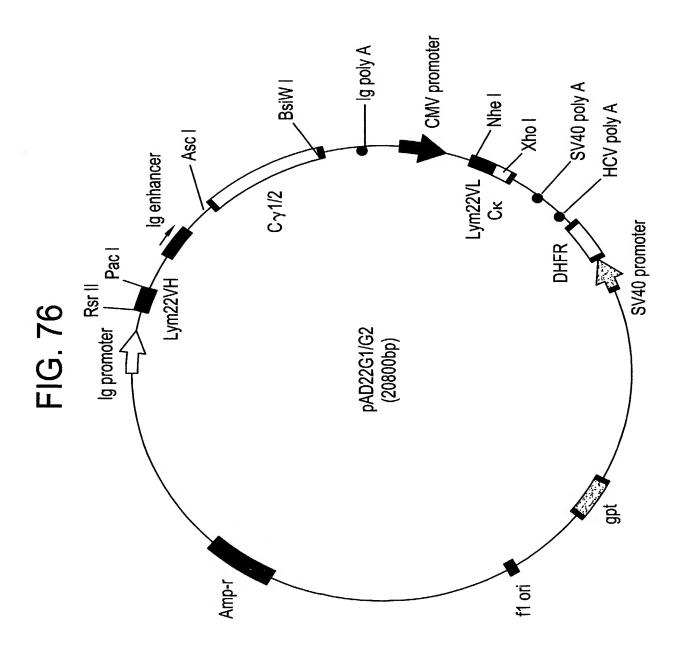




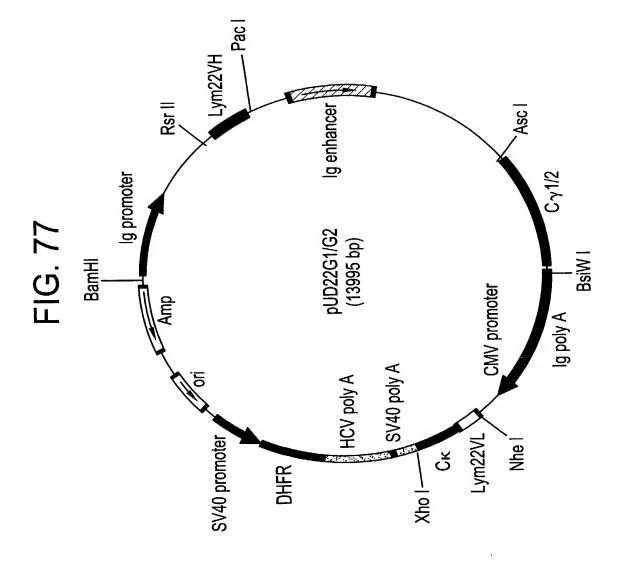




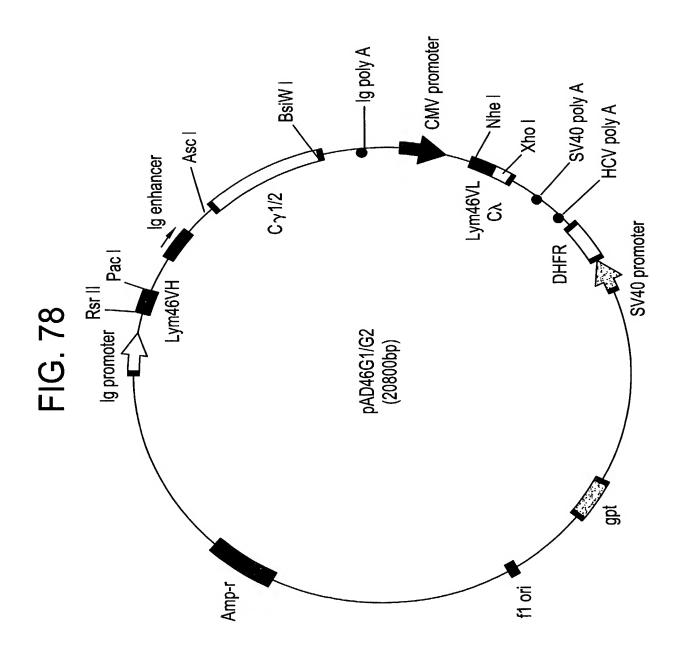














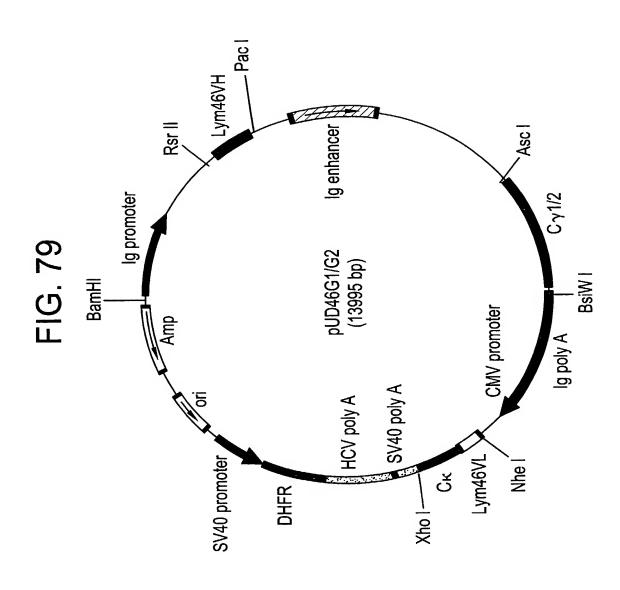




FIG. 80A

TMEV Infected SJL Mice Treated at 21 Days Post Infection

Demyelination

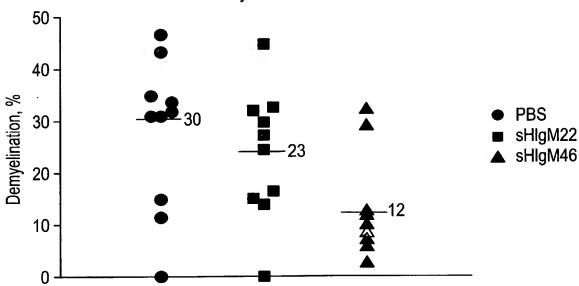


FIG. 80B

TMEV Infected SJL Mice Treated at 21 Days Post Infection

Inflammation

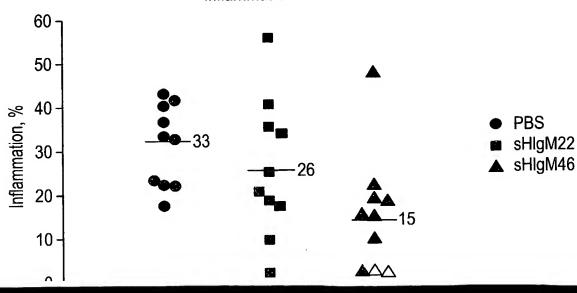
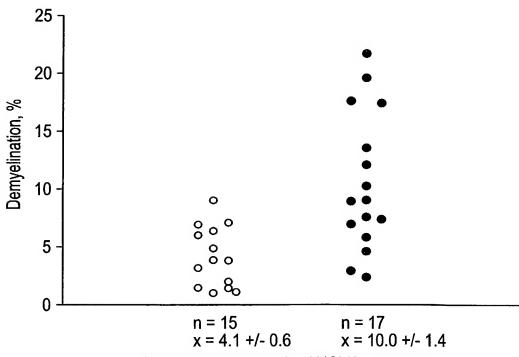




FIG. 81

Chronically TMEV Infected SJL Mice Treated with sHIgM46 or sHIgM22



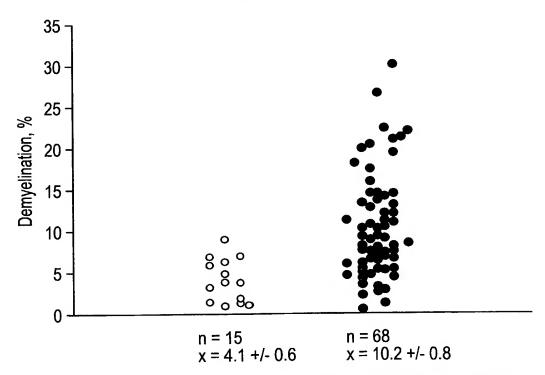
Groups are different by ANOVA, P = 0.001

- o sHlgM46
- sHlgM22



FIG. 82

Chronically TMEV Infected SJL Mice Treated sHIgM46 vs All Other Antibodies



Groups are different by one way ANOVA, P = < 0.001

- o sHlgM46
- other mAbs



FIG. 83

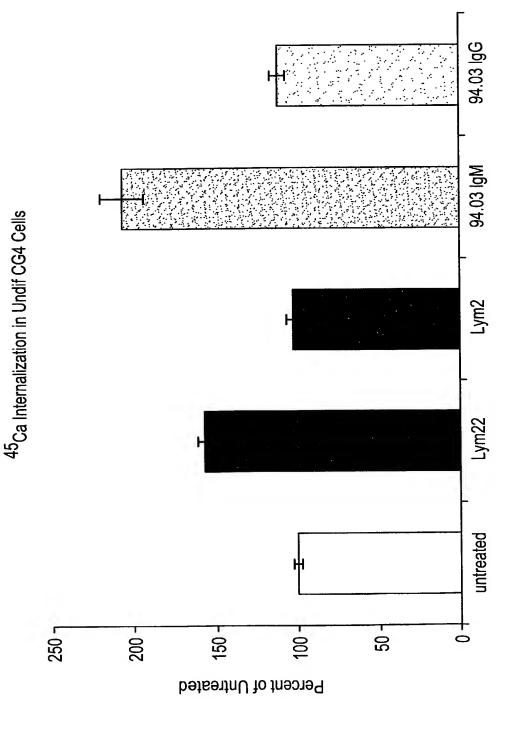




FIG. 84

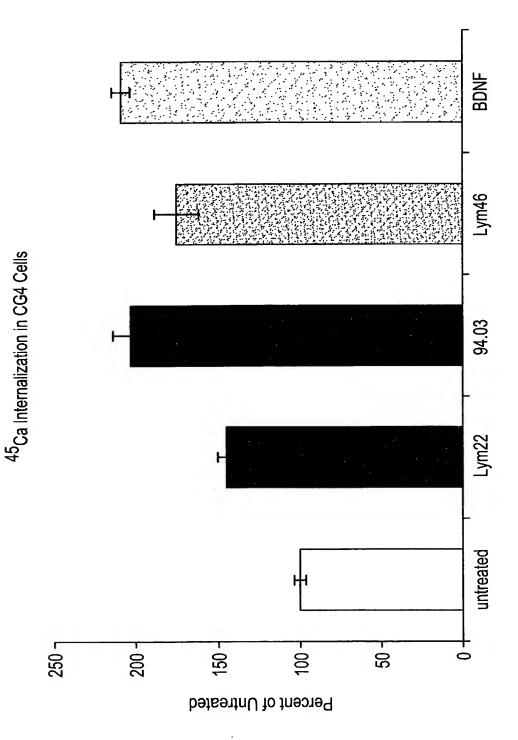




FIG. 85

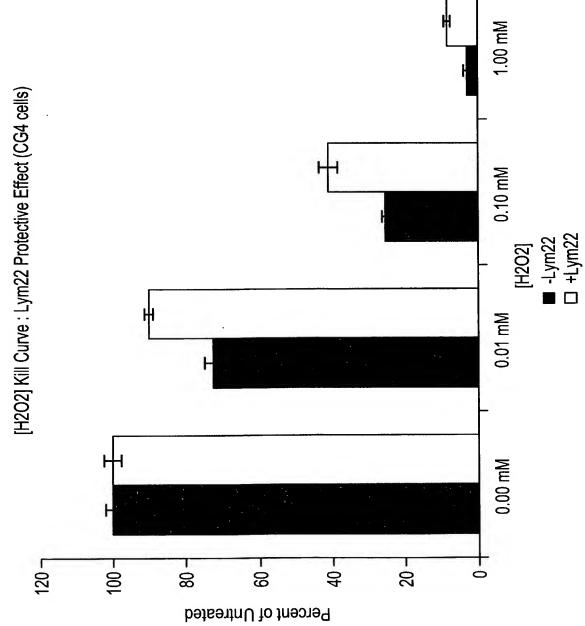




FIG. 86A

MTT Assay: H₂O₂-induced cell death

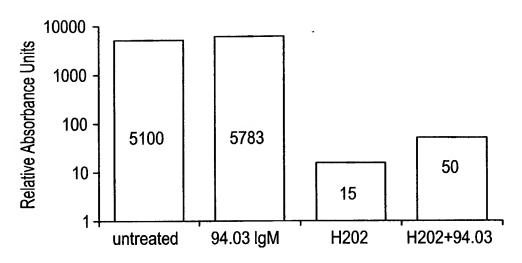


FIG. 86B

Cell Number: H₂O₂-induced cell death

